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76 3
2

FOREIGN AGRICULTURE REPORT
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FOREIGN AGRICULTURAL RELATIONS
U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C.

NORTH AMERICAN AGRO-CLIMATIC ANALOGUES OF PREWAR CZECHOSLOVAKIA, POLAND, AND CERTAIN AREAS OF EAST PRUSSIA, POMERANIA, G.M. POSEN, WEST PRUSSIA, BRANDENBURG, AND SILESIA

by

M.Y. NUTTONSON

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OTHER STUDIES ON NORTH AMERICAN AGRO-CLIMATIC ANALOGUES FOR VARIOUS COUNTRIES

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Mr. Nuttonson is Senior Agronomist in the Technical Collaboration Branch of the Office of Foreign Agricultural Relations.

UNITED STATES DEPARTMENT OF AGRICULTURE

Office of Foreign Agricultural Relations

NORTH AMERICAN AGRO-CLIMATIC ANALOGUES OF PREWAR CZECHOSLOVAKIA, POLAND, AND CERTAIN AREAS OF EAST PRUSSIA, POMERANIA, G. M. POSEN, WEST PRUSSIA, BRANDENBURG, AND SILESIA

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February 1947

CONTENTS

Page

Introduction 1

Objective and method of procedure 1

Czechoslovakia and its climate 2

Map of Czechoslovakia, Poland, and certain Provinces of prewar Germany and American climatically analogous areas 6

Agro-climatic chart of Czechoslovakia and North American climatic analogues of Czechoslovakia

Poland and its climate, including some of the adjacent German Provinces 7

Agro-climatic chart of Poland and adjacent prewar German Provinces with North American climatic analogues

NORTH AMERICAN AGRO-CLIMATIC ANALOGUES OF PREWAR CZECHOSLOVAKIA, POLAND, AND CERTAIN AREAS OF EAST PRUSSIA, POMERANIA, G. M. POSEN, WEST PRUSSIA, BRANDENBURG, AND SILESIA

INTRODUCTION

This study is one of a number dealing with North American agro-climatic analogues for various countries of the world. The purpose of these studies is to formulate and facilitate an agronomic and horticultural ecological approach to the problem of plant introduction and the exchange of plant material.

From a purely regional point of view, there is often a need for crop diversification and improvement, as well as for economy of time, effort, and cost of the carefully conducted varietal field trials of newly introduced varieties of various plant species. A less empirical attitude toward selection of plant-source areas for the region in question, as well as a less arbitrary attitude toward the selection of areas of field trials for a given plant material of a definite agro-climatic origin, may result in such saving of time and effort.

It is fully appreciated that the elasticity of adaptation of a given plant variety is in no way limited or predetermined by the agro-climatic, or the other, ecological characteristics of its place of origin or discovery. Finally, although the climatic and latitudinal environments which are utilized as the bases in these comparative studies are among the most potent factors of plant adaptation for many varieties of different crop species, there are also a number of other specific ecological factors in various areas which are of great importance in plant-adaptation and which do not lend themselves to any mathematical expressions and comparisons. The feeling is, however, that where a purely regional point of view prevails and where results are needed and the economical considerations of securing such results are of great importance an orientation on the agro-climatic origin of the plant variety may be desirable.

In dealing with horticultural varieties of crop species, the adaptation of which in terms of their geographical climatic distribution and phenological behavior is fairly well known, an approach to the agronomic and horticultural problems of plant introduction and exchange of plant material appeared possible through a comparative study of the agro-climatic characteristics of the various crop regions of the countries under consideration.

OBJECTIVE AND METHOD OF PROCEDURE

The objective of this study is to organize, define, and analyze the various distinct agro-climatic conditions prevailing in the different parts of Czechoslovakia, Poland, and a number of Provinces of prewar Germany and to compare them with various agro-climatic regions of North America, in order to ascertain "climatic analogues." These climatic analogues are areas of North America and the other countries that are enough alike in respect to some of the major weather characteristics affecting crop production, particularly during the growing period, to offer a fairly good chance for the success of plant material transplanted from one area to its climatic counterpart.

Meteorological data of all available weather stations of the countries under consideration in this paper have been utilized as the main source of material for this study. The elements of comparison used are mean monthly temperatures; mean, maxima, and minima yearly temperatures; average monthly, seasonal, and yearly precipitation; precipitation-effectivity indexes and ratios (Thornthwaite's method); and the latitudes.

The climatic analogues formulated were based on comparison of the above-mentioned elements. After such elements of the environment of a given European meteorological station had been computed and studied, a search was made among North American meteorological stations for a similar climatic environment within and outside the latitudinal position of the European meteorological station in question. The environment of the North American area found to resemble most nearly that of the European station under consideration was recorded as climatically analogous to it. A complete list of such climatically analogous North American meteorological stations and their locations, as well as some of the points in which they differ from their respective "opposite number" in Europe, is given in the two agro-climatic charts included in this paper.

In addition to the climatic analogues based upon year-round climatic similarities, comparative studies were also made for the April-October and September-May fractions of the year. The purpose of these additional comparisons was to ascertain additional separate agro-climatic analogues for spring and winter crops in order to have a wider choice of areas for agronomic plant exploration. The exact locations of these additional analogues are listed in the supplements to the charts of this paper. A map of Czechoslovakia and Poland, with the meteorological stations of these countries, and with the American regions into which each of these stations belongs climatically, is also presented. The year-round North American climatically analogous areas and the separate spring-crop and winter-crop climatically analogous areas are indicated on the map.

CZECHOSLOVAKIA AND ITS CLIMATE

Czechoslovakia is a mountainous, landlocked country, situated between 47°43' and 51°05' north latitude. A study of its climate in terms of North American regions, located within similar latitudes, reveals very much milder winter conditions in Czechoslovakia. The influence of the ocean and the sheltering effect of the forest-covered mountains which surround the country and protect it from the north wind probably are responsible for its mild climatic conditions.

The country is divided into four Provinces - Bohemia, Moravia, Slovakia, and Carpathian Ruthenia. The whole area of the country - 54,000 square miles - is protracted in shape from east to west and comprises three highly contrasting land types, each having a characteristic natural endowment. The first is the upland region, including Bohemia and parts of Moravia, surrounded by mountains. The second is the valley of Moravia, which cuts the country in half. The third includes the folded ranges of the mountainous mass of Slovakia and Carpathian Ruthenia with its mountain-girt basins, mountain valleys, and fragments of the Hungarian plains.

Altitude is one of the main factors in determining the nature of climatic conditions within the country. Lower temperatures and greater precipitation are usually associated with an increase in altitude. At similar altitudes and latitudes, the points in the western part of the country are subject to milder winters and cooler summers than those in the eastern part. This condition seems to be due to the greater influence of the ocean in the west. In addition to altitude, exposure also is important in preventing uniformity in the climatic conditions of Czechoslovakia.

The precipitation of the country is well-distributed, and most of it occurs during the spring and summer months, suggesting the type of rainfall distribution characteristic of the Middle West area of the United States. The summers are fairly cool - the mean July temperature seldom rising above 65° F. Such summer temperatures are characteristic of a number of areas in North America, some of which are located within the latitudes of Czechoslovakia and others within the higher altitudes of more southern regions. The winters are fairly mild - the mean January temperature being above 28° F. for most of the Czechoslovak stations. Such mild winter temperatures occur in North America only in areas either considerably south of the latitudes of Czechoslovakia, or within its latitudes but where the type of precipitation distribution is not that which characterizes Czechoslovakia.

In formulating American climatic analogues for Czechoslovakia, four different approaches suggest themselves. All are considered in this study and are described as follows:

1. American Climatic Analogues for Czechoslovakia on the Basis of Climatic Conditions Prevailing Throughout the Year but Outside the Latitude Ranges of the Latter

Very satisfactory United States climatic analogues can be found about 10° south of the latitudes of Czechoslovakia. The temperatures throughout the year, the total precipitation and its monthly distribution, the precipitation-effectivity indexes, and the length of frostless periods are all quite similar to those of Czechoslovakia.

The similarity in temperature, in spite of differences in latitude, is due to (a) the higher altitude position of most of these United States climatic analogues as compared with that of their Czechoslovak counterparts and (b) the much milder climatic conditions prevailing in most of Czechoslovakia than those anticipated from the latitude position of the country.

Such United States climatic analogues for Czechoslovakia are to be found, as may be seen from the agro-climatic chart included, in the upland valleys and in plateau regions of Colorado and New Mexico. It is only at an altitude between 6,000 and 10,000 feet in those parts of the United States that one finds climatic conditions resembling those of the majority of the Czechoslovak stations dealt with in this study.

This approach, the substitution of altitude for latitude, may carry with it some photoperiodic, or other, implications with some plant material, but, on the whole, the vertical zonation of climate and vegetation appears to be similar to the zonation due to increase in latitude.

A brief description of the agricultural and plant environment of the high-altitude stations in Colorado and New Mexico selected as the climatic analogues for Czechoslovakia, and their comparison with the agricultural and plant environment of Czechoslovakia itself, may prove of interest. In the case of Czechoslovakia, there appear to be a climatic environment and a vegetation which suggest, in spite of local differences, a certain unity in some of its main country-wide characteristics. Such is not the case in Colorado and New Mexico, where the high-altitude stations, selected as the Czechoslovak climatic counterparts, show micro-climatic conditions relatively limited in area and application and not at all typical of the region as a whole. It is within those limited areas only that one finds the forest-covered mountain slopes, the numerous mountain meadows with lush vegetation, and an annual precipitation great enough to make dry farming possible - all of which is rather characteristic of Czechoslovakia as a whole.

2. American Climatic Analogues for Czechoslovakia Within the Latitudes of the Latter but on the Basis of Climatic Conditions Prevailing Only from Mid-April to Mid-October

The relatively mild winters of Czechoslovakia do not permit the formulation of its climatic analogues in those areas of the United States and Canada which have both the latitude range and the type of precipitation distribution characteristic of Czechoslovakia. However, if attention is limited to the climatic conditions prevailing during the growing period only (mid-April to mid-October); that is, if one thinks only in terms of spring-planted and fall-harvested crops, the formulation of American climatic analogues within the right latitudes and with the same precipitation distribution is possible. Such analogues in Minnesota, Wisconsin, and Canada have been suggested in supplemental chart No. 1, included. This approach is justified from the point of view of some of the practical agronomic problems of plant introduction of spring crops. It does not, however, help in the introduction problems of winter crops.

3. American Climatic Analogues for Czechoslovakia Within the Latitudes of the Latter but on the Basis of Climatic Conditions Prevailing only from Mid-September to Mid-May

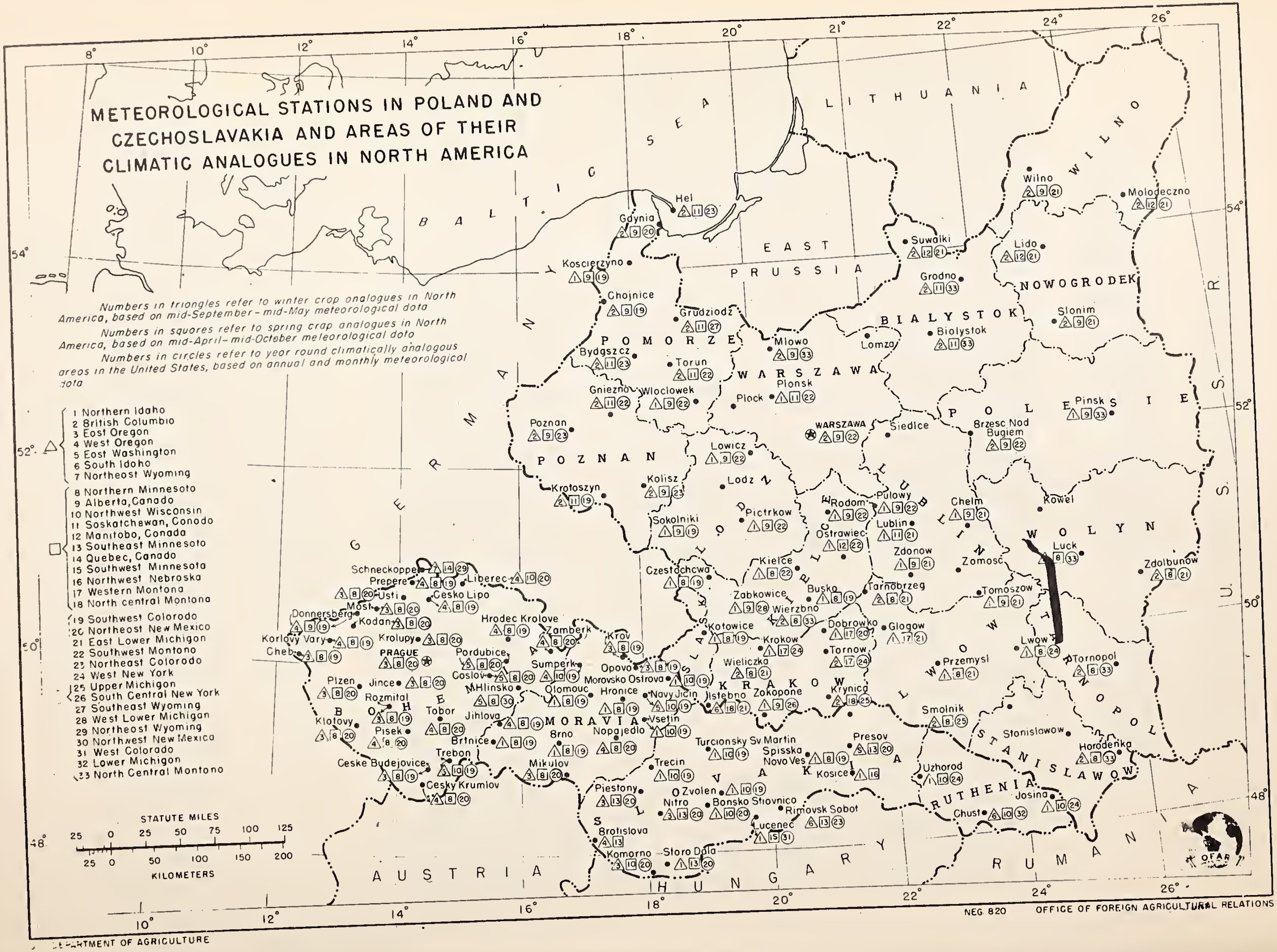
Limiting attention mainly to the climatic environment of winter crops, one could take advantage of the climatic conditions of Idaho, Washington, and Oregon. In those States, the latitude ranges and temperature conditions throughout the year, and moisture conditions during the fall, winter, and spring, are quite similar to those of Czechoslovakia. Climatic analogues found in those States have been suggested in supplemental chart No. 2, included. From an agronomic point of view, one may be justified in looking upon these suggested areas as potential sources of seed of winter crops for Czechoslovakia and vice versa.

4. Climatic Analogues for Czechoslovakia Within the Irrigated Areas of North America on the Basis of Latitude and All Climatic Conditions Except those of Natural Precipitation During the Summer Period.

Except for summer droughts, the northwestern part of the United States would seem to be the most logical area for Czechoslovak climatic analogues. It is the only region within North America where both winter and summer temperatures of Czechoslovakia prevail within the same latitude ranges. The similarity of the Northwest to Czechoslovakia in its year-round temperature conditions, in the length of frostless periods, in latitude ranges and precipitation conditions prevailing during the major part of the winter-crop period of the year has been mentioned in the preceding paragraph.

The various points in Idaho, Washington, and Oregon, indicated in supplemental chart No. 2, which have been suggested as sources of winter-crop seed for Czechoslovakia, produce also spring crops through the use of artificial irrigation during the moisture-deficit period of the summer. Since moisture, thus, is no longer a limiting factor in spring-crop production; and, since all the other elements of comparison used in this study point to the Northwest as the best North American counterpart of the year-round climatic conditions of Czechoslovakia, one may well consider that region as an additional potential source of spring-crop seed for Czechoslovakia. Supplemental chart No. 2, therefore, may be used also as a reference for spring-crop areas.

This chart has been formulated on the basis of winter-crop climatic environment. In selecting the climatic analogues, however, the year-round temperatures and the length of frostless periods also were taken into account. Thus, each climatic analogue of supplemental chart No. 2 represents similarities to the respective Czechoslovak stations with regard to all climatic factors affecting the winter-crop period, as well as with regard to the similarities of year-round temperature conditions and length of frostless periods.



METEOROLOGICAL STATIONS IN POLAND AND CZECHOSLAVAKIA AND AREAS OF THEIR CLIMATIC ANALOGUES IN NORTH AMERICA

Numbers in triangles refer to winter crop analogues in North America, based on mid-September – mid-May meteorological data

Numbers in squares refer to spring crop analogues in North America, based on mid-April – mid-October meteorological data

Numbers in circles refer to year round climatically analogous areas in the United States, based on annual and monthly meteorological data

△
1 Northern Idaho
2 British Columbia
3 East Oregon
4 West Oregon
5 East Washington
6 South Idaho
7 Northeast Wyoming

□
8 Northern Minnesota
9 Alberta, Canada
10 Northwest Wisconsin
11 Saskatchewan, Canada
12 Manitoba, Canada
13 Southeast Minnesota
14 Quebec, Canada
15 Southwest Minnesota
16 Northwest Nebraska
17 Western Montana
18 North central Montana

19 Southwest Colorado
20 Northeast New Mexico
21 East Lower Michigan
22 Southwest Montana
23 Northeast Colorado
24 West New York
25 Upper Michigan
26 South Central New York
27 Southeast Wyoming
28 West Lower Michigan
29 Northeast Wyoming
30 Northwest New Mexico
31 West Colorado
32 Lower Michigan
33 North Central Montana

NEG. 820 OFFICE OF FOREIGN AGRICULTURAL RELATIONS

ARTMENT OF AGRICULTURE

PRECIPITATION EFFECTIVITY INDEX
82.4
60.4
55.4
44.8
63.6
50.6
51.7
60.9
74.3
46.9
56.7
39.9
41.1
58.2
55.3
29.9
102.0
48.6
43.1
44.3
47.5
50.3
77.3
36.2
58.1
57.5
174.9
55.4
77.5
43.9
71.9

STATION REFERENCE NUMBER	CLIMATIC PARALLEL IN THE BASED UPON METEOROLOGICAL DATA ONLY
1	N.E. NEW MEXICO (HARVEY'S UPPER RANCH-SAN MIGUEL COUNTY) SLIGHTLY COLDER. 3 INCHES MORE PRECIPITATION.
2	S.E. COLORADO (SANTA CLARA - HUERFANO COUNTY) WARMER JANUARY - MARCH.
3	S.E. COLORADO (SANTA CLARA - HUERFANO COUNTY) 3 INCHES MORE PRECIPITATION.
4	N.E. NEW MEXICO (FOLSOM - UNION COUNTY) SLIGHTLY WARMER MARCH - OCTOBER.
5	S.E. COLORADO (SANTA CLARA - HUERFANO COUNTY).
6	N.E. NEW MEXICO (ROCIADA - SAN MIGUEL COUNTY). LITTLE WARMER JANUARY - MARCH.
7	S.E. COLORADO (MONUMENT - EL PASO COUNTY). SLIGHTLY COOLER DECEMBER - FEBRUARY: 2 INCHES LESS PRECIPITATION.
8	S.E. COLORADO (FREEMONT EXP. STATION - EL PASO COUNTY).
9	N.W. NEW MEXICO (CHAMA - RIO ARRIBA COUNTY) 5 INCHES LESS PRECIPITATION AND SOMEWHAT COOLER DECEMBER - MARCH.
10	S.E. COLORADO (SANTA CLARA - HUERFANO COUNTY) 6 INCHES MORE PRECIPITATION.
11	S.E. COLORADO (SANTA CLARA - HUERFANO COUNTY) SLIGHTLY WARMER JANUARY - MARCH.
12	N.E. NEW MEXICO (FOLSOM - UNION COUNTY). SLIGHTLY COOLER AND DRIER.
13	N.E. NEW MEXICO (FORT UNION - MORA COUNTY).
14	S.E. COLORADO (SANTA CLARA - HUERFANO COUNTY).
15	N.E. NEW MEXICO (ROCIADA - SAN MIGUEL COUNTY). SLIGHTLY WARMER JANUARY - MAY.
16	N.E. NEW MEXICO (RATON - COLFAX COUNTY).
17	N.E. NEW MEXICO (HARVEY'S UPPER RANCH - SAN MIGUEL COUNTY). SLIGHTLY COOLER AND 4 INCHES LESS PRECIPITATION.
18	S.E. COLORADO (MONUMENT - EL PASO COUNTY).
19	N.E. NEW MEXICO (FORT UNION- MORA COUNTY).
20	N.E. NEW MEXICO (FOLSOM - UNION COUNTY).
21	N.E. NEW MEXICO (ROCIADA - SAN MIGUEL COUNTY).
22	N.E. NEW MEXICO (GALLINAS PLANT STATION - SAN MIGUEL COUNTY) 3 INCHES MORE PRECIPITATION.
23	N.E. NEW MEXICO (HARVEY'S UPPER RANCH - SAN MIGUEL COUNTY). SLIGHTLY COOLER, 4 INCHES MORE PRECIPITATION.
24	N.E. NEW MEXICO (FOLSOM - UNION COUNTY).
25	S.E. COLORADO (SANTA CLARA- HUERFANO COUNTY).
26	S.E. COLORADO (SANTA CLARA - HUERFANO COUNTY). 2 INCHES MORE PRECIPITATION.
27	N.E. WYOMING (DOME LAKE - SHERIDAN COUNTY). SOMEWHAT COOLER DECEMBER - FEBRUARY, AND A LITTLE MORE THAN ONE HALF T
28	N.E. NEW MEXICO (ROCIADA - SAN MIGUEL COUNTY).
29	S.E. COLORADO (SANTA CLARA - HUERFANO COUNTY) 5 INCHES LESS PRECIPITATION.
30	N.E. NEW MEXICO (FORT UNION - MORA COUNTY) 2 INCHES LESS PRECIPITATION.
31	N.E. NEW MEXICO (HARVEY'S UPPER RANCH - SAN MIGUEL COUNTY) 5 INCHES MORE PRECIPITATION AND SOMEWHAT COOLER THAN ZA

PRECIPITATION EFFECTIVITY INDEX
82.4
60.4
55.4
44.8
63.6
50.6
51.7
60.9
74.3
46.9
56.7
39.9
41.1
58.2
55.3
29.9
102.0
48.6
43.1
44.3
47.5
50.3
77.3
36.2
58.1
57.5
174.9
55.4
77.5
43.9
71.9

STATION REFERENCE NUMBER	CLIMATIC PARALLEL IN THE UNITED STATES BASED UPON METEOROLOGICAL DATA ONLY	ALTITUDE	LATITUDE
1	N.E. New Mexico (Harvey's Upper Ranch-San Miguel County) Slightly colder. 3 inches more precipitation.	9400'	35°45'
2	S.E. Colorado (Santa Clara - Huerfano County) Warmer January - March.	8250'	37°30'
3	S.E. Colorado (Santa Clara - Huerfano County) 3 inches more precipitation.	8250'	37°30'
4	N.E. New Mexico (Folsom - Union County) Slightly warmer March - October.	6399'	36°50'
5	S.E. Colorado (Santa Clara - Huerfano County).	8250'	37°30'
6	N.E. New Mexico (Rociada - San Miguel County). Little warmer January - March.	7150'	35°50'
7	S.E. Colorado (Monument - El Paso County). Slightly cooler December - February: 2 inches less precipitation.	7200'	39°10'
8	S.E. Colorado (Freemont Exp. Station - El Paso County).	8836'	38°45'
9	N.W. New Mexico (Chama - Rio Arriba County) 5 inches less precipitation and somewhat cooler December - March.	7851'	36°50'
10	S.E. Colorado (Santa Clara - Huerfano County) 6 inches more precipitation.	8250'	37°30'
11	S.E. Colorado (Santa Clara - Huerfano County) Slightly warmer January - March.	8250'	37°30'
12	N.E. New Mexico (Folsom - Union County). Slightly cooler and drier.	6399'	36°50'
13	N.E. New Mexico (Fort Union - Mora County).	6885'	35°50'
14	S.E. Colorado (Santa Clara - Huerfano County).	8250'	37°30'
15	N.E. New Mexico (Rociada - San Miguel County). Slightly warmer January - May.	7150'	35°50'
16	N.E. New Mexico (Raton - Colfax County).	6660'	36°55'
17	N.E. New Mexico (Harvey's Upper Ranch - San Miguel County). Slightly cooler and 4 inches less precipitation.	9400'	35°45'
18	S.E. Colorado (Monument - El Paso County).	7200'	39°10'
19	N.E. New Mexico (Fort Union- Mora County).	6885'	35°50'
20	N.E. New Mexico (Folsom - Union County).	6399'	36°50'
21	N.E. New Mexico (Rociada - San Miguel County).	7150'	35°50'
22	N.E. New Mexico (Gallinas Plant Station - San Miguel County) 3 inches more precipitation.	7500'	35°45'
23	N.E. New Mexico (Harvey's Upper Ranch - San Miguel County). Slightly cooler, 4 inches more precipitation.	9400'	35°45'
24	N.E. New Mexico (Folsom - Union County).	6399'	36°50'
25	S.E. Colorado (Santa Clara- Huerfano County).	8250'	37°30'
26	S.E. Colorado (Santa Clara - Huerfano County). 2 inches more precipitation.	8250'	37°30'
27	N.E. Wyoming (Done Lake - Sheridan County). Somewhat cooler December - February, and a little more than one half the precipitation of Schneckoppe.	8821'	44°45'
28	N.E. New Mexico (Rociada - San Miguel County).	7150'	35°50'
29	S.E. Colorado (Santa Clara - Huerfano County) 5 inches less precipitation.	8250'	37°30'
30	N.E. New Mexico (Fort Union - Mora County) 2 inches less precipitation.	6885'	35°50'
31	N.E. New Mexico (Harvey's Upper Ranch - San Miguel County) 5 inches more precipitation and somewhat cooler than Zamberk.	9400'	35°45'

Continued –

AGRO - CLIMATIC CHART FOR CZECHOSLOVAKIA
AND CLIMATIC ANALAGUES IN THE UNITED STATES

(Based on Monthly and Annual Meteorological Data)

PROVINCE	METEOROLOGICAL STATION	STATION REFERENCE NUMBER	LENGTH OF RECORD	MEAN TEMPERATURE															KILLING FROST			AVERAGE PRECIPITATION													LATITUDE	ALTITUDE	PRECIPITATION EFFECTIVENESS INDEX
				JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	YEARLY	MAX.	MIN.	LAST IN SPRING	FIRST IN FALL	NO. OF FROSTLESS DAYS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	YEARLY			
BOHEMIA	AS	1	7 YRS.	27.5	27.0	30.2	41.2	53.8	57.9	59.9	58.6	53.0	42.8	34.9	28.4	43.0	83.5	3.9	APRIL	OCTOBER	168	2.0	1.8	1.2	3.0	2.8	3.0	3.7	3.4	2.1	3.2	2.2	1.5	29.8	50°15'	2194'	82.1
	BILA TREMESNA	2	7 YRS.	27.7	28.2	34.2	43.7	[illegible]	60.3	63.0	60.4	54.0	44.6	37.0	29.5	44.8	90.1	1.2	APRIL	SEPTEMBER	153	1.9	1.5	1.0	1.9	1.9	1.6	2.8	2.7	1.9	3.5	1.7	1.1	24.3	50°27'	1082'	60.1
	BREZOVE HORY	3	7 YRS.	29.1	28.9	35.2	43.9	54.1	61.2	64.0	61.7	55.4	45.1	36.5	29.8	45.5	88.3	3.2	APRIL	OCTOBER	174	1.3	1.1	0.7	2.1	3.4	2.5	3.0	2.6	1.8	2.6	1.5	1.9	23.1	49°42'	1706'	58.4
	CASLAV	4	7 YRS.	36.9	30.9	36.7	46.4	55.9	61.7	64.8	62.4	56.7	47.3	39.6	30.7	46.9	90.5	0.7	APRIL	OCTOBER	158	0.9	1.2	0.9	1.6	2.4	2.5	2.8	2.3	1.8	2.4	1.1	0.9	20.5	49°53'	823'	44.3
	CESKA LIPA	5	49 YRS.	30.0	29.7	36.3	45.3	56.3	61.7	64.0	62.1	55.9	45.9	38.5	32.0	46.4	87.8	3.6	APRIL	OCTOBER	174	2.1	1.9	1.1	2.4	1.8	2.4	3.3	2.6	1.8	2.8	1.6	1.8	25.4	50°42'	941'	63.5
	CESKY KRUMLOV	6	9 YRS.	29.8	28.2	36.3	44.6	55.4	59.5	63.0	60.8	55.2	45.0	36.7	30.6	45.5	84.9	0.7	APRIL	OCTOBER	164	0.8	0.9	0.9	1.9	2.3	3.7	3.9	3.1	1.6	1.7	1.1	1.0	22.8	48°49'	1670'	50.5
	CHEB	7	9 YRS.	28.4	28.9	35.4	43.2	54.0	59.7	62.2	60.8	54.3	44.6	37.2	34.0	45.0	85.8	1.0	APRIL	SEPTEMBER	150	1.4	1.2	1.0	2.1	2.1	2.1	3.1	2.7	1.5	2.3	1.5	1.0	22.1	50°05'	1584'	51.7
	DONNERSBERG	8	19 YRS.	24.8	26.1	32.2	38.8	50.2	54.3	57.6	56.5	50.2	41.1	30.7	27.7	41.1	-	-	JUNE	SEPTEMBER	92	1.7	1.3	1.5	1.8	2.2	2.5	2.6	2.4	1.8	1.4	1.5	1.7	22.5	50°33'	2756'	60.9
	HLINSKO	9	6 YRS.	26.8	26.6	32.9	42.3	53.1	59.2	61.7	59.4	53.1	[illegible]	36.3	27.0	43.9	87.8	1.1	APRIL	SEPTEMBER	143	2.0	1.9	1.1	1.8	2.9	2.5	3.7	3.1	2.8	3.5	1.5	1.3	28.2	49°46'	1935'	74.3
	HRADEC KRALOVE	10	5 YRS.	29.5	30.2	37.4	46.8	55.8	61.9	64.4	63.7	57.9	47.1	39.2	32.0	47.1	91.2	-0.5	APRIL	OCTOBER	173	1.5	1.2	0.7	1.4	2.5	2.5	2.9	2.2	1.4	2.6	1.4	0.7	21.0	50°15'	820'	44.9
	IGLAU (JIHLAVA)	11	49 YRS.	25.3	28.0	33.3	43.0	52.0	59.7	82.1	61.2	54.8	45.1	34.7	27.3	43.9	88.0	-2.6	-	-	-	1.3	1.1	1.6	1.8	2.2	3.3	3.2	2.6	1.9	1.7	1.3	1.4	24.2	49°24'	1738'	56.7
	JINCE	12	5 YRS.	33.6	33.8	41.2	49.6	60.1	64.4	68.5	67.5	62.2	51.1	42.1	34.2	44.7	90.0	1.0	APRIL	OCTOBER	170	3.9	1.0	0.7	2.1	2.9	2.6	2.7	2.7	1.3	2.7	1.3	0.7	21.5	49°47'	1424'	39.9
	KADAN	13	9 YRS.	32.5	30.2	36.2	[illegible]	56.1	62.1	64.9	62.6	55.8	46.0	38.5	31.6	46.8	87.1	4.6	MAY	OCTOBER	166	1.3	1.1	0.7	1.5	1.8	1.8	2.3	2.9	1.0	1.9	1.1	1.1	17.9	50°23'	932'	41.1
	KARLOVY VARY (CARLSBAD)	14	10 YRS.	30.0	29.0	36.0	44.0	53.0	60.0	64.0	61.0	55.0	45.0	38.0	31.0	45.0	87.0	6.0	MAY	SEPTEMBER	123	1.5	1.4	1.1	2.5	2.2	2.6	3.1	3.0	1.5	2.2	1.5	1.2	23.9	50°13'	1399'	52.2
	KLATOVY	15	9 YRS.	29.7	29.3	36.3	44.4	54.7	60.8	63.5	61.5	55.8	45.5	37.6	30.9	45.9	88.9	0.7	APRIL	OCTOBER	163	1.3	0.8	0.8	2.3	2.7	2.7	2.9	2.8	1.8	2.2	1.0	1.1	22.5	49°23'	1381'	55.3
	KRALUPY	16	4 YRS.	31.2	34.2	40.0	48.4	57.0	64.2	67.5	65.0	58.8	48.6	39.7	33.4	49.1	90.9	3.9	APRIL	OCTOBER	191	0.7	0.9	0.5	1.5	1.5	2.1	1.6	2.1	1.1	1.6	1.3	0.5	15.5	50°14'	607'	21.3
	LIBEREC	17	8 YRS.	29.7	29.1	35.4	45.0	54.7	60.1	63.0	60.6	54.9	45.3	38.0	30.9	45.5	89.6	0.0	MAY	OCTOBER	149	2.9	2.4	1.4	3.3	3.0	3.5	4.2	3.9	3.2	5.1	2.5	2.1	37.6	50°45'	1345'	102.9
	LITVINOVICE (CES BUDEJOVICE) (BUDWEIS)	18	10 YRS.	29.0	27.0	36.0	45.0	54.0	61.0	64.0	62.0	56.0	46.0	38.0	30.0	46.0	-	-	MAY	SEPTEMBER	123	0.8	1.0	0.8	2.0	2.8	3.2	3.3	2.7	1.7	1.9	1.2	0.9	22.3	48°57'	1233'	48.5
	MOST	19	8 YRS.	32.0	32.6	37.8	47.0	56.8	61.9	65.0	63.1	58.1	46.6	38.2	32.3	47.3	89.6	10.9	APRIL	NOVEMBER	202	1.0	1.1	0.7	1.8	2.1	2.1	2.9	2.0	1.1	1.4	1.1	1.1	18.5	50°31'	888'	43.3
	PARDUBICE	20	6 YRS.	30.0	31.0	37.0	47.0	57.0	63.0	66.0	64.0	58.0	49.0	40.0	32.0	48.0	91.0	2.0	MAY	SEPTEMBER	123	1.2	1.1	0.7	1.6	2.3	1.8	2.8	2.4	1.9	2.7	1.3	1.0	20.0	50°02'	747'	44.3
	PISEK	21	6 YRS.	30.7	29.7	35.8	[illegible]	55.4	62.2	64.0	62.1	56.1	45.5	38.1	32.4	46.4	87.1	2.3	MAY	SEPTEMBER	153	1.1	0.9	0.7	2.1	3.2	2.8	2.9	2.6	1.6	2.2	1.0	1.0	22.2	49°45'	1223'	47.5
	PLZEN	22	8 YRS.	31.6	30.7	37.8	46.4	57.2	62.8	64.8	62.6	56.2	46.0	38.5	33.2	47.2	88.2	7.0	APRIL	OCTOBER	172	1.3	0.8	1.3	3.2	2.3	2.4	3.0	2.9	1.6	1.7	1.1	1.2	22.9	49°45'	1131'	53.1
	POLICKA	23	7 YRS.	26.2	26.4	32.5	41.7	52.0	57.9	61.9	58.3	52.3	43.0	35.8	27.9	43.0	85.5	-4.5	JUNE	SEPTEMBER	105	1.9	1.9	1.1	2.2	2.8	2.8	3.5	3.5	2.7	3.5	1.9	1.6	29.6	49°43'	1945'	77.3
	PRAG	24	79 YRS.	30.0	32.7	38.7	48.0	57.2	64.0	66.7	65.7	58.6	49.1	38.8	32.5	48.6	90.7	3.4	MAY	OCTOBER	153	0.8	0.9	1.1	1.5	2.3	2.8	2.5	2.2	1.6	1.2	1.2	0.9	19.2	50°05'	653'	35.2
	PREPERE	25	7 YRS.	30.0	30.0	37.0	46.0	56.0	61.0	64.0	62.0	56.0	46.0	39.0	31.0	46.0	90.0	1.0	MAY	SEPTEMBER	123	1.8	1.3	0.7	2.1	2.7	2.3	2.9	2.7	2.3	3.2	1.8	1.1	24.9	50°35'	737'	52.1
	ROZMITAL	26	7 YRS.	29.3	29.1	35.8	44.2	54.1	60.8	63.5	61.3	55.2	44.8	36.7	29.7	45.3	90.5	4.1	MAY	OCTOBER	149	1.5	1.3	0.8	2.5	2.6	2.1	2.0	3.2	1.8	2.8	1.5	1.2	24.7	49°36'	1706'	57.5
	SCHNECKOPPE	27	30 YRS.	19.0	18.0	22.0	29.0	38.0	44.0	47.0	46.0	41.0	34.0	26.0	21.0	32.0	-	-	-		-	2.9	2.7	2.8	3.0	4.0	5.4	6.2	4.6	4.7	3.7	3.2	3.3	46.5	50°44'	5249'	134.9
	TABOR	28	9 YRS.	30.0	29.6	36.5	45.5	55.0	59.9	63.3	61.0	55.0	45.1	37.4	30.4	45.9	87.1	3.0	APRIL	OCTOBER	163	1.1	1.1	0.7	1.7	2.5	3.0	2.9	2.7	1.8	2.5	1.3	1.3	22.6	49°25'	1496'	55.4
	TREBON	29	5 YRS.	29.8	30.6	37.0	45.9	54.3	60.4	65.3	63.5	56.5	46.4	37.6	30.7	46.7	88.7	-1.3	APRIL	OCTOBER	189	3.0	2.3	1.6	3.0	4.2	3.3	3.8	3.4	2.0	3.3	1.5	1.3	31.7	49°00'	1433'	72.5
	USTI N L	30	8 YRS.	32.0	33.3	37.6	49.1	58.3	63.7	66.6	64.4	58.3	48.0	40.1	33.8	48.9	88.9	8.6	APRIL	NOVEMBER	212	1.3	1.3	0.6	2.0	1.8	1.9	3.3	2.5	1.5	2.6	1.3	1.1	20.9	50°39'	610'	43.1
	ZAMBERK	31	4 YRS.	26.6	29.1	36.9	44.1	53.2	59.9	62.4	60.1	54.5	44.6	37.4	30.0	44.8	87.8	-3.0	APRIL	OCTOBER	153	1.7	2.0	[illegible]	2.3	3.5	2.7	3.5	3.8	2.6	3.0	1.8	1.2	28.3	50°08'	1418'	71.1

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PRECIPITATION EFFECTIVITY INDEX
60.5
45.0
151.1
69.0
48.1
41.4
63.0
57.8
48.3
71.8
46.5
50.0
69.1
76.2
85.5
44.8
54.4
61.8
52.2
50.1
53.4
60.1
52.1
97.0
54.9
52.0
95.5
76.2
79.7
81.8
95.0
79.0
81.3
110.3
105.3
62.9

AGRO - CLIMATIC ANALAGUES CHART FOR CZECHOSLOVAKIA AND THE UNITED STATES Cont'd ..

(Based on Monthly and Annual Meteorological Data)

PROVINCE	METEOROLOGICAL STATION	STATION REFERENCE NUMBER	LENGTH OF RECORD	MEAN TEMPERATURE															KILLING FROST			AVERAGE PRECIPITATION															
				JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	YEARLY	MAX.	MIN.	LAST IN SPRING	FIRST IN FALL	NO. OF FROSTLESS DAYS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	YEARLY	LATITUDE	ALTITUDE	PRECIPITATION EFFECTIVITY INDEX
MORAVIA	BRTNICE	32	6 YRS.	27.2	27.9	33.3	43.0	54.6	58.8	62.8	60.3	53.8	44.2	36.1	29.1	44.2	87.3	-0.2	APRIL	SEPTEMBER	148	1.4	2.1	0.8	1.7	2.8	2.7	3.3	3.0	1.6	2.1	1.0	1.1	23.6	49°18'	1683'	60.5
	BRUN (BRNO)	33	60 YRS.	27.3	30.2	37.2	47.7	56.5	63.1	66.4	64.9	56.1	48.6	37.2	28.9	47.1	90.5	1.5	MAY	SEPTEMBER	123	1.0	1.0	1.2	1.4	2.2	2.7	2.7	2.6	1.5	1.6	1.4	1.7	20.8	49°12'	820'	45.6
	HORNI MORAVKA	34	26 YRS.	25.7	26.8	32.4	41.2	50.2	57.4	59.7	59.5	54.0	45.9	34.9	27.9	43.0	86.1	-5.8	-	-	-	2.9	3.1	3.4	3.9	4.6	7.7	7.7	5.7	4.2	4.1	3.8	2.9	54.0	49°36'	1591'	151.1
	HRANICE	35	9 YRS.	28.6	31.1	36.3	46.2	56.3	61.5	64.4	62.2	55.8	46.6	38.8	30.7	46.4	90.0	-2.1	APRIL	OCTOBER	163	1.4	1.2	0.9	1.8	2.2	2.0	2.8	4.1	2.5	3.6	3.9	1.5	25.7	49°33'	866'	69.0
	KRNOV	36	6 YRS.	29.7	29.1	37.0	45.7	54.3	61.7	64.8	62.1	56.8	47.3	39.4	32.0	46.5	88.9	1.8	APRIL	OCTOBER	173	0.8	1.0	1.0	1.7	2.4	2.8	3.3	3.5	2.1	2.5	1.0	0.8	22.8	50°05'	1046'	48.1
	MIKULOV	37	5 YRS.	30.6	32.0	41.2	48.9	59.9	65.3	68.4	64.8	58.1	47.7	40.1	32.0	48.9	91.7	6.6	APRIL	OCTOBER	189	0.7	1.3	0.6	1.5	2.1	1.6	2.3	3.1	1.8	2.7	1.3	1.1	20.1	48°47'	787'	41.4
	MORAVSKA OSTRAVA	38	10 YRS.	27.0	31.0	38.0	47.0	57.0	62.0	66.0	65.0	58.0	49.0	39.0	31.0	47.0	87.0	-	-	-	-	1.4	1.1	0.5	2.0	2.8	4.0	4.6	3.9	2.5	2.3	1.5	1.4	29.0	49°50'	722'	63.0
	MORAVSKA TREBOVA	39	6 YRS.	28.6	28.8	35.4	44.4	55.4	61.3	63.9	61.7	55.0	46.0	38.3	28.9	45.7	90.3	-3.8	APRIL	SEPTEMBER	138	1.6	1.5	0.6	1.6	2.5	1.9	3.8	2.8	2.1	3.1	1.4	1.1	24.0	49°46'	1138'	57.6
	NAPAJEDLA	40	7 YRS.	29.7	30.9	36.5	48.0	58.0	63.7	67.1	64.2	57.7	48.4	40.5	31.9	48.2	92.1	3.0	APRIL	OCTOBER	174	1.2	1.3	1.1	1.5	2.7	1.8	2.5	3.3	1.7	2.8	1.5	1.1	19.4	49°10'	666'	48.3
	NOVY JICIN	41	7 YRS.	29.5	29.3	37.2	46.0	56.1	62.2	65.3	62.4	56.3	47.5	39.9	31.6	47.0	90.0	-3.9	APRIL	OCTOBER	174	1.2	1.4	0.8	2.1	2.8	2.6	4.1	5.7	5.0	3.8	1.7	1.1	31.2	49°35'	974'	71.8
	OLOMOUC (OLMUTZ)	42	11 YRS.	27.7	29.2	37.5	46.8	56.4	61.3	66.2	64.4	58.2	48.4	40.4	30.4	47.2	-	-	JUNE	SEPTEMBER	92	1.2	1.0	1.0	1.5	2.1	2.7	3.3	2.9	1.6	1.9	1.4	0.9	20.7	49°35'	863'	46.5
	OPAVA	43	10 YRS.	31.0	29.5	37.2	46.8	56.8	62.2	65.7	63.3	57.2	48.0	40.1	32.5	47.5	88.2	3.5	APRIL	OCTOBER	181	1.6	1.0	1.0	1.9	2.2	2.7	3.2	3.7	2.1	2.8	1.1	1.1	23.7	49°58'	856'	50.0
	SUMPERK	44	4 YRS.	29.1	31.3	38.7	47.5	55.4	60.9	59.5	61.9	56.3	46.2	38.8	31.1	47.1	87.6	0.0	APRIL	OCTOBER	160	2.3	2.0	1.2	2.1	2.9	3.2	3.7	3.0	1.8	2.1	1.7	1.3	27.4	49°58'	1182'	68.1
	VSETIN	45	7 YRS.	28.9	28.4	36.1	45.9	56.5	62.1	65.3	61.9	55.6	46.6	39.4	31.1	46.6	89.0	-6.9	MAY	OCTOBER	140	1.7	2.1	1.3	2.0	3.1	2.9	3.2	4.5	3.1	4.1	1.9	1.4	31.1	49°21'	1155'	75.2
SLOVAKIA	BANSKA STIAVNICA	46	7 YRS.	25.3	27.1	34.5	44.2	54.9	60.3	64.4	61.2	54.7	45.0	36.3	35.4	44.8	87.6	1.4	MAY	SEPTEMBER	149	1.3	2.3	1.8	2.6	4.0	2.0	2.9	2.8	2.0	4.0	2.7	2.4	32.0	48°28'	2053'	85.5
	KOMARNO	47	7 YRS.	30.6	32.0	40.5	50.2	59.7	65.5	70.2	66.9	60.4	50.0	41.2	31.8	49.8	94.3	4.8	APRIL	OCTOBER	181	1.0	1.5	1.1	1.9	2.4	1.4	1.6	2.2	1.1	2.5	1.8	1.6	20.3	47°47'	367'	44.8
	KOSICE	48	7 YRS.	27.3	28.4	38.3	48.0	59.0	63.5	67.8	64.9	57.6	48.2	38.7	30.2	47.7	90.1	5.7	APRIL	OCTOBER	179	0.9	1.1	1.2	2.0	2.9	2.9	2.7	3.1	2.2	2.7	2.0	1.2	25.0	48°42'	672'	54.4
	LUCENEC	49	5 YRS.	27.3	32.3	42.4	50.5	59.2	65.1	69.3	65.8	59.4	49.3	40.1	30.0	49.3	93.6	3.4	APRIL	OCTOBER	171	1.4	2.0	1.5	2.0	3.2	2.2	2.1	2.3	1.6	2.9	2.2	2.2	25.7	48°12'	626'	61.8
	NITRA	50	7 YRS.	30.0	31.8	40.1	49.6	59.7	65.3	59.4	66.4	59.9	49.6	40.8	31.8	49.6	93.0	6.4	APRIL	NOVEMBER	191	1.2	1.7	1.0	2.0	2.4	1.9	2.3	2.7	1.2	2.6	1.7	1.7	22.0	48°13'	452'	52.2
	PIESTANY	51	7 YRS.	30.2	32.4	39.7	45.1	59.4	64.6	68.5	65.3	60.3	49.2	41.2	32.2	49.1	92.8	6.1	APRIL	OCTOBER	179	1.2	1.4	1.0	1.7	2.9	2.0	2.5	2.9	1.7	3.5	1.7	1.4	23.0	48°37'	538'	50.4
	PRESOV	52	2 YRS.	30.0	28.6	40.1	48.6	57.7	65.1	67.6	63.9	57.4	47.7	37.8	31.5	48.0	91.9	3.2	APRIL	OCTOBER	183	1.1	1.6	0.8	2.0	2.2	2.9	3.3	3.0	2.7	2.6	0.6	1.6	24.5	49°00'	605'	53.4
	PRESZBURG	53	29 YRS.	29.3	33.6	41.0	50.5	60.4	66.4	69.8	68.2	61.2	51.6	40.3	32.7	50.4	-	-	APRIL	OCTOBER	198	1.7	1.3	2.1	2.6	2.6	2.7	2.9	2.3	2.4	2.4	1.9	2.0	27.3	48°11'	502'	60.1
	RIMAVSKA SOBOTA	54	7 YRS.	28.0	31.1	42.6	52.2	62.6	68.0	72.5	69.6	61.9	51.8	41.0	31.6	54.9	92.3	0.5	APRIL	OCTOBER	170	1.3	1.4	1.1	2.0	2.8	2.3	2.7	3.3	1.5	2.6	2.0	1.5	24.8	48°23'	705'	52.1
	SELMECY BANYA	55	20 YRS.	26.1	28.4	35.6	45.7	55.9	60.8	65.1	63.3	56.5	46.4	35.8	27.9	45.6	-	-	MAY	OCTOBER	153	2.1	2.3	2.4	2.9	3.8	3.8	3.2	2.9	2.8	3.7	2.9	2.9	35.8	48°27'	2034'	97.0
	SPISSKA NOVA VES	56	3 YRS.	25.5	27.3	38.8	47.1	55.2	60.4	63.1	60.6	54.3	45.5	36.7	29.5	45.3	87.1	1.2	MAY	SEPTEMBER	113	0.7	1.1	0.9	1.5	3.1	3.6	3.0	3.5	1.8	1.9	1.8	1.3	24.5	48°57'	1528'	54.9
	STARA DALA	57	49 YRS.	28.8	31.8	41.0	50.2	60.1	64.9	68.5	66.9	59.7	50.2	39.6	32.4	49.5	-	-	MAY	SEPTEMBER	123	1.4	1.2	1.5	2.1	2.4	2.4	2.3	1.8	2.0	2.1	1.8	1.9	23.7	47°53'	300'	52.0
	STARY SMOKOVEC	58	9 YRS.	25.2	24.1	31.6	39.0	49.8	50.5	58.3	56.8	50.4	42.4	34.5	25.7	40.6	-	-	MAY	SEPTEMBER	92	1.5	1.5	1.8	2.9	3.3	3.8	4.8	4.0	3.4	2.9	2.8	1.5	34.2	49°08'	3339'	95.5
	TRENCIN TEPLICE	59	7 YRS.	29.1	30.4	38.3	47.3	57.2	62.4	65.7	63.3	56.8	47.8	40.1	31.3	47.5	91.0	3.7	APRIL	OCTOBER	170	1.8	2.2	1.6	2.3	2.8	2.1	3.5	3.8	2.3	4.2	2.4	1.8	3.1	48°55'	902'	75.7
	TURCIANSKY SV. MARTIN	60	3 YRS.	28.2	29.7	39.9	47.7	55.9	61.0	63.7	61.0	55.2	46.2	38.8	32.7	46.6	87.4	-2.7	MAY	OCTOBER	147	1.6	2.8	1.5	2.3	3.5	3.4	3.9	3.5	2.5	4.1	1.5	2.2	32.3	49°02'	1322'	70.7
	ZVOLEN	61	3 YRS.	27.5	30.0	23.4	48.9	56.8	62.4	65.8	62.8	55.9	46.9	38.5	32.4	47.3	91.4	-0.2	MAY	OCTOBER	153	1.6	2.8	1.9	2.0	4.2	2.5	3.3	3.1	1.6	2.5	1.9	2.6	30.2	48°35'	981'	81.5
CARP. RUTHENIA	ARVAVARALJA	62	49 YRS.	22.5	24.4	32.0	42.8	52.3	58.7	61.3	59.7	53.2	45.1	33.4	25.2	42.6	85.3	-14.8	MAY	SEPTEMBER	123	1.9	2.0	2.1	2.1	3.4	4.4	4.9	3.8	3.3	2.6	2.0	2.2	35.7	49°16'	1693'	95.0
	BUSTINO	63	7 YRS.	25.7	26.8	39.0	49.1	59.7	64.2	68.2	65.1	57.9	49.6	39.2	28.8	47.8	91.4	-5.1	APRIL	OCTOBER	173	1.5	1.6	1.9	2.6	3.1	4.0	3.1	3.5	3.2	4.9	2.1	1.8	33.4	48°02'	659'	79.0
	CHUST	64	3 YRS.	24.8	26.8	41.7	51.3	59.9	61.5	67.8	64.9	57.9	48.7	39.2	32.2	48.4	92.6	-11.4	MAY	OCTOBER	173	2.2	2.4	1.7	3.1	3.5	4.6	4.4	3.0	3.7	4.4	2.6	1.9	37.6	48°11'	574'	81.3
	JASINA	65	7 YRS.	23.7	22.8	30.6	42.5	52.9	57.9	61.5	59.4	52.1	45.7	35.4	25.5	43.2	77.2	-10.0	MAY	SEPTEMBER	127	1.2	1.8	2.1	2.9	3.7	5.2	4.6	5.1	4.0	4.1	1.9	1.7	38.3	48°16'	2175'	113.3
	SKOTARSKY	66	5 YRS.	24.3	21.0	30.0	40.8	51.6	55.4	60.1	57.6	52.2	44.6	36.0	27.5	42.1	83.0	-3.7	MAY	OCTOBER	161	1.5	2.3	2.0	2.4	4.6	4.5	5.4	5.0	3.3	3.9	2.6	1.4	38.9	48°45'	2594'	105.3
	UZHOROD	67	29 YRS.	26.4	30.4	39.4	50.0	60.4	64.9	68.2	66.6	59.5	50.7	39.0	31.1	48.9	88.5	0.3	JUNE	OCTOBER	122	1.8	1.7	1.9	2.0	2.6	4.1	3.2	2.6	2.3	2.9	2.4	2.3	30.3	48°38	420'	82.9

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PRECIPITATION EFFECTIVITY INDEX
60.5
45.0
151.1
69.0
48.1
41.4
63.0
57.8
48.3
71.8
46.5
50.0
69.1
76.2
85.5
44.8
54.4
61.8
52.2
50.1
53.4
60.1
52.1
97.0
54.9
52.0
95.5
76.2
79.7
81.8
95.0
79.0
81.3
110.3
105.3
62.9

STATION REFERENCE NUMBER	CLIMATIC PARALLEL IN THE UNITED STATES BASED UPON METEOROLOGICAL DATA ONLY	ALTITUDE	LATITUDE
32	S.E. Colorado (Monument - El Paso County) 4 inches less precipitation.	7200'	39°10'
33	S.E. Colorado (Monument - El Paso County) Slightly cooler.	7200'	39°10'
34	Eastern Pennsylvania (Mount Pocono - Monroe County). Somewhat cooler November - April.	1658'	41°30'
35	S.E. Colorado (Santa Clara - Huerfano County).	8250'	37°30'
36	S.E. Colorado (Monument - El Paso County). A little cooler most of the year.	7200'	39°10'
37	N.E. New Mexico (Folsom - Union County). A little cooler November - July.	6399'	36°50'
38	S.E. Colorado (Santa Clara - Huerfano County). Somewhat cooler most of the year.	8250'	37°30'
39	S.E. Colorado (Santa Clara - Huerfano County).	8250'	37°30'
40	N.E. New Mexico (Folsom - Union County).	6399'	36°50'
41	S.E. Colorado (Santa Clara- Huerfano County). 3 inches less precipitation and slightly cooler.	8250'	37°30'
42	S.E. Colorado (Monument - El Paso County). Somewhat cooler most of the year.	7200'	39°10'
43	S.E. Colorado (Santa Clara - Huerfano County). 3 inches more precipitation and slightly cooler.	8250'	37°30'
44	S.E. Colorado (Santa Clara - Huerfano County). Slightly cooler.	8250'	37°30'
45	S.E. Colorado (Santa Clara - Huerfano County). 4 inches less precipitation.	8250'	37°30'
46	N.E. New Mexico (Harvey's Upper Ranch - San Miguel County). Slightly cooler.	9400'	35°45'
47	N.E. New Mexico (Folsom - Union County).	6399'	36°50'
48	Western Colorado (Durango - La Plata County). Slightly cooler March - June. 5 inches less precipitation.	6589'	37°15'
49	Western Colorado (Durango - La Plata County). Slightly cooler 5 inches less precipitation.	6589'	37°15'
50	N.E. New Mexico (Folsom - Union County) 3 inches less precipitation.	6399'	36°50'
51	N.E. New Mexico (Folsom - Union County) 4 inches less precipitation.	6399'	36°50'
52	N.E. New Mexico (Gallinas Plant Station - San Miguel County) Slightly warmer December - March. Slightly colder the rest of the year.	7500'	35°45'
53	N.E. New Mexico (Folsom - Union County). 8 inches less precipitation.	6399'	36°50'
54	N.E. Colorado (Cope - Washington County). 6 inches less precipitation. Slightly cooler October - July.	4400'	39°45'
55	Western New York (Angelica - Allegany County). Somewhat cooler January - April.	1420'	42°15'
56	S.E. Colorado (Santa Clara - Huerfano County). Little warmer January - March and August - December. Slightly cooler March, July and December.	8250'	37°30'
57	N.E. New Mexico (Folsom - Union County) 4 inches less precipitation.	6399'	36°50'
58	N.E. New Mexico (Harvey's Upper Ranch - San Miguel County).	9400'	35°45'
59	S.E. Colorado (Santa Clara - Huerfano County) Slightly cooler most of the year. 4 inches less precipitation.	8250'	37°30'
60	S.E. Colorado (Santa Clara - Huerfano County). Slightly cooler December, February - July. 6 inches less precipitation.	8250'	37°30'
61	S.E. Colorado (Santa Clara- Huerfano County). Slightly cooler most of the year. 3 inches less precipitation.	8250'	37°30'
62	Western New York (Angelica - Allegany County). Somewhat warmer.	1420'	42°15'
63	Western Lower Michigan (San Joseph - Berrien County) Slightly cooler February - June. Slightly warmer June - December.	593'	42°05'
64	Western Lower Michigan (Grand Haven - Ottawa County) Somewhat warmer June - October. Slightly cooler October - June. 6 inches less precipitation.	628'	43°05'
65	Western New York (Angelica - Allegany County). 4 inches less precipitation. Warmer June - October.	1420'	42°15'
66	Western New York (Angelica - Allegany County). Warmer June - October, 3 inches less precipitation.	1420'	42°15'
67	Western New York (Appleton - Niagara County). Somewhat cooler. 2 inches more precipitation.	300'	43°20'

All Colorado and New Mexico analogues are located within 37° - 39° North Latitude as compared with 47° - 50° North Latitude of Czechoslovakian stations; i.e. there is about 10° difference in Latitude.

AGRO-CLIMATIC CHART FOR CZECHOSLOVAKIA AND CLIMATIC ANALAGUES IN THE UNITED STATES Cont'd

(Based on Monthly and Annual Meteorological Data)

PROVINCE	METEOROLOGICAL STATION	STATION REFERENCE NUMBER	LENGTH OF RECORD	MEAN TEMPERATURE															KILLING FROST			AVERAGE PRECIPITATION															
				JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	YEARLY	MAX.	MIN.	LAST IN SPRING	FIRST IN FALL	NO. OF FROSTLESS DAYS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	YEARLY	LATITUDE	ALTITUDE	PRECIPITATION EFFECTIVENESS INDEX
MORAVIA	BRTNICE	32	6 YRS.	27.3	27.9	33.3	43.0	54.6	58.8	62.8	60.3	53.8	44.2	36.1	29.1	44.2	87.3	-0.2	APRIL	SEPTEMBER	148	1.4	2.1	0.8	1.7	2.8	2.7	3.3	3.0	1.6	2.1	1.0	1.1	23.6	49°18'	1683'	60,5
	BRUN (BRNO)	33	60 YRS.	27.3	30.2	37.2	47.7	56.5	63.1	66.4	64.9	56.1	48.6	37.2	28.9	47.1	90.5	1.5	MAY	SEPTEMBER	123	1.0	1.0	1.2	1.4	2.2	2.7	2.7	2.6	1.5	1.6	1.4	1.2	20.8	49°12'	820'	45,6
	HORNI MORAVKA	34	26 YRS.	25.7	26.8	32.4	41.2	50.2	57.4	59.7	59.5	54.0	45.9	34.9	27.9	43.0	86.1	-5.8	-	-	-	2.9	3.1	3.4	3.9	4.6	7.7	7.7	5.7	4.2	4.1	3.0	2.9	54.0	49°36'	1591'	151,1
	HRANICE	35	9 YRS.	28.6	31.1	36.3	46.2	56.3	61.5	64.4	62.2	55.8	46.6	38.8	30.7	46.4	90.0	-2.3	APRIL	OCTOBER	163	1.4	1.2	0.9	1.8	2.2	2.0	2.8	4.1	2.5	3.6	3.9	1.5	25.7	49°33'	866'	69,0
	KRNOV	36	6 YRS.	29.7	29.1	37.0	45.7	54.3	61.7	64.8	62.1	56.8	47.3	39.4	32.0	46.5	88.9	1.8	APRIL	OCTOBER	173	0.8	1.0	1.0	1.7	2.4	2.9	3.3	3.5	2.1	2.5	1.0	0.8	22.8	50°05'	1046'	42,1
	MIKULOV	37	5 YRS.	30.6	32.0	41.2	48.9	59.9	65.3	68.4	64.8	58.1	47.7	40.1	32.0	48.9	91.0	6.6	APRIL	OCTOBER	189	0.7	1.3	0.6	1.5	2.1	1.6	2.3	3.1	1.8	2.7	1.3	1.1	20.1	48°47'	787'	41,4
	MORAVSKA OSTRAVA	38	10 YRS.	27.0	31.0	38.0	47.0	57.0	62.0	66.0	65.0	58.0	49.0	39.0	31.0	47.0	87.0	-	-	-	-	1.4	1.1	1.5	2.0	2.8	4.0	4.6	3.9	2.9	2.3	1.5	1.4	29.0	49°50'	722'	63,0
	MORAVSKA TREBOVA	39	6 YRS.	28.6	28.8	35.4	44.4	55.4	61.3	63.9	61.7	55.0	46.0	38.3	28.9	45.7	90.3	-3.8	APRIL	SEPTEMBER	138	1.6	1.5	0.6	1.6	2.5	1.9	3.8	2.8	2.1	3.1	1.4	1.1	24.0	49°46'	1138'	57,8
	NAPAJEDLA	40	7 YRS.	29.7	30.9	38.5	48.0	58.0	63.7	67.1	64.2	57.7	48.4	40.5	31.9	48.7	92.1	3.0	APRIL	OCTOBER	174	1.2	1.3	1.1	1.5	2.7	1.8	2.5	3.3	1.7	2.8	1.5	1.1	19.4	49°10'	666'	48,3
	NOVY JICIN	41	7 YRS.	29.5	29.3	37.2	46.0	56.1	62.2	65.3	62.4	56.3	47.5	39.9	31.6	47.0	90.0	-3.9	APRIL	OCTOBER	174	1.2	1.4	1.8	2.1	2.8	2.6	4.1	5.7	5.0	3.8	1.7	1.1	31.2	49°35'	974'	71,8
	OLOMOUC (OLMUTZ)	42	11 YRS.	27.7	29.2	37.5	46.8	56.4	61.3	66.2	64.4	58.2	48.4	40.4	30.4	47.2	-	-	JUNE	SEPTEMBER	92	1.2	1.0	1.0	1.5	2.1	2.7	3.3	2.9	1.6	1.9	1.4	0.9	20.7	49°35'	663'	44,5
	OPAVA	43	10 YRS.	31.0	29.5	37.2	46.8	56.8	62.2	65.7	63.3	57.2	48.0	40.1	32.5	47.5	88.2	3.5	APRIL	OCTOBER	181	1.8	1.0	1.0	1.9	2.2	2.7	3.2	3.7	2.1	2.8	1.1	1.1	23.7	49°58'	836'	50,0
	SUMPERK	44	4 YRS.	29.1	31.3	38.7	47.5	55.4	60.9	59.5	61.9	55.3	46.2	38.8	31.1	47.1	87.6	0.8	APRIL	OCTOBER	160	2.3	2.0	1.2	2.1	2.9	3.2	3.7	3.0	1.8	2.1	1.7	1.3	27.4	49°58'	1102'	69,1
	VSETIN	45	7 YRS.	28.9	28.4	36.1	45.9	56.5	62.1	65.3	61.9	55.6	46.6	39.4	31.1	46.6	89.0	-6.9	MAY	OCTOBER	140	1.7	2.1	1.3	2.0	3.1	2.9	3.2	4.5	3.1	4.1	1.9	1.4	31.1	49°21'	1155'	78,2
SLOVAKIA	BANSKA STIAVNICA	46	7 YRS.	25.3	27.1	34.5	44.2	54.9	60.3	64.4	61.2	54.7	45.0	36.3	35.4	44.8	87.6	1.4	MAY	SEPTEMBER	149	1.3	2.3	1.8	2.6	4.0	2.0	2.9	2.8	2.0	4.0	2.7	2.4	32.0	48°28'	2053'	85,5
	KOMARNO	47	7 YRS.	30.6	32.0	40.5	50.2	59.7	65.5	70.2	66.9	60.4	50.0	41.2	31.8	49.8	94.3	4.8	APRIL	OCTOBER	181	1.0	1.5	1.1	1.9	2.4	1.4	1.5	2.2	1.1	2.5	1.8	1.6	20.3	47°47'	367'	44,9
	KOSICE	48	7 YRS.	27.3	28.4	38.3	48.0	59.0	53.5	67.8	64.9	57.6	48.2	38.7	30.2	47.7	90.1	5.7	APRIL	OCTOBER	179	0.9	1.1	1.2	2.0	2.9	2.9	2.7	3.1	2.2	2.7	2.0	1.2	25.0	40°42'	672'	54,4
	LUCENEC	49	5 YRS.	27.3	32.3	42.4	50.5	59.2	65.1	69.3	65.8	59.4	49.3	40.1	30.0	49.3	93.6	3.4	APRIL	OCTOBER	171	1.4	2.0	1.5	2.0	3.2	2.2	2.1	2.3	1.6	2.9	2.2	2.2	25.7	40°13'	626'	61,5
	NITRA	50	7 YRS.	30.0	31.8	40.1	49.6	59.7	65.3	59.4	66.4	59.9	49.6	40.8	31.8	49.6	93.0	6.4	APRIL	NOVEMBER	191	1.3	1.7	1.0	2.0	2.4	1.9	2.3	2.7	1.2	2.6	1.7	1.7	22.0	48°13'	452'	52,2
	PIESTANY	51	7 YRS.	30.2	32.4	39.7	45.1	59.4	64.6.	68.5	65.3	60.3	49.3	41.2	32.2	49.1	92.8	5.1	APRIL	OCTOBER	179	1.2	1.4	1.0	1.7	2.9	2.0	2.5	2.9	1.7	3.5	1.7	1.4	23.0	48°37'	535'	50,1
	PRESOV	52	2 YRS.	30.0	28.6	40.1	48.6	57.7	65.1	67.6	63.9	57.4	47.7	37.8	31.5	48.0	91.9	3.2	APRIL	OCTOBER	183	1.1	1.6	0.8	2.0	2.2	2.9	3.3	3.0	2.7	2.6	0.6	1.6	24.5	49°00'	808'	53,4
	PRESZBURG	53	29 YRS.	29.3	33.6	41.0	50.5	60.4	66.4	69.8	68.2	61.2	51.6	40.3	32.7	50.4	-	-	APRIL	OCTOBER	198	1.7	1.3	2.1	2.6	2.6	2.7	2.9	2.3	2.4	2.4	1.9	2.0	27.3	49°11'	502'	60,1
	RIMAVSKA SOBOTA	54	7 YRS.	28.0	31.1	42.6	52.2	62.6	68.0	72.5	69.6	61.9	51.8	41.0	31.6	54.9	92.3	0.5	APRIL	OCTOBER	170	1.3	1.4	1.1	2.0	2.8	2.3	2.7	3.3	1.5	2.6	2.0	1.5	24.8	48°23'	705'	52,1
	SELMECY BANYA	55	20 YRS.	26.1	28.4	35.6	45.7	55.9	60.8	65.1	63.3	56.5	46.4	35.8	27.9	45.6	-	-	MAY	OCTOBER	153	2.1	2.3	2.4	2.9	3.8	3.8	3.2	2.9	2.8	3.7	2.9	2.9	35.8	48°27'	2034'	97,0
	SPISSKA NOVA VES	56	3 YRS.	25.5	27.3	38.8	47.1	55.2	60.4	63.1	60.6	54.3	45.5	36.7	29.5	45.3	87.1	1.2	MAY	SEPTEMBER	113	0.7	1.1	0.9	1.5	3.1	3.6	3.0	3.5	1.8	1.9	1.8	1.3	24.5	48°57'	1528'	54,9
	STARA DALA	57	49 YRS.	28.8	31.8	41.0	50.2	60.1	64.9	68.5	66.9	59.7	50.2	39.6	32.4	49.5	-	-	MAY	SEPTEMBER	123	1.4	1.2	1.5	2.1	2.4	2.4	2.3	1.8	2.0	2.1	1.8	1.9	23.2	47°53'	390'	52,0
	STARY SMOKEVEC	58	9 YRS.	25.2	24.1	31.6	39.0	49.8	50.5	58.3	56.8	50.4	42.4	34.5	25.7	40.6	-	-	MAY	SEPTEMBER	92	1.5	1.5	1.8	2.9	3.3	3.8	4.8	4.0	3.4	2.9	2.8	1.5	34.2	49°08'	3339'	95,5
	TRENCIN TEPLICE	59	7 YRS.	29.1	30.4	38.3	47.3	57.2	62.4	65.7	63.3	56.8	47.8	40.1	31.3	47.5	91.0	3.7	APRIL	OCTOBER	170	1.8	2.2	1.6	2.3	2.8	2.1	3.5	3.8	2.3	4.2	2.4	1.8	3.1	48°55'	907'	75,2
	TURCIANSKY SV. MARTIN	60	3 YRS.	28.2	29.7	39.9	47.7	55.9	61.0	63.7	61.0	55.2	46.2	38.8	32.7	46.6	87.4	-2.7	MAY	OCTOBER	147	1.6	2.8	1.5	2.3	3.5	3.4	3.9	3.5	2.5	4.1	1.5	2.2	32.3	49°02'	1322'	75,7
	ZVOLEN	61	3 YRS.	27.5	33.0	23.4	48.9	56.8	62.4	65.8	62.8	55.9	46.9	38.5	32.4	47.3	91.4	-0.2	MAY	OCTOBER	153	1.6	2.8	1.9	2.0	4.2	2.5	3.3	3.1	1.6	2.5	1.9	2.6	30.2	48°35'	981'	81,9
CARP. RUTHENIA	ARVAVARALJA	62	49 YRS.	22.5	24.4	32.0	42.8	52.3	58.7	61.3	59.7	53.2	45.1	33.4	35.2	42.6	85.3	-14.8	MAY	SEPTEMBER	123	1.9	2.0	2.4	2.1	3.4	4.4	4.9	3.8	3.3	2.8	2.0	2.2	35.7	49°16'	1693'	95,0
	BUSTINO	63	7 YRS.	25.7	26.8	39.0	49.1	59.7	64.2	68.2	65.1	57.9	49.6	39.2	28.9	47.8	91.4	-5.1	APRIL	OCTOBER	173	1.5	1.6	1.0	2.6	3.1	4.0	3.1	3.5	3.2	4.9	2.1	1.8	33.4	48°02'	659'	79,0
	CHUST	64	3 YRS.	24.8	26.8	41.7	51.3	59.9	61.5	67.8	64.9	57.9	48.7	39.2	32.2	48.4	92.6	-11.4	MAY	OCTOBER	173	2.2	2.4	1.7	3.1	3.5	4.6	4.4	3.0	3.7	4.4	2.6	1.9	37.6	48°11'	574'	81,3
	JABINA	65	7 YRS.	23.7	22.8	30.6	42.5	52.9	57.9	61.5	59.4	52.1	45.7	35.4	25.5	43.2	77.2	-10.0	MAY	SEPTEMBER	127	1.2	1.8	2.1	2.9	3.7	5.2	4.6	5.1	4.0	4.1	1.9	1.7	38.3	48°16'	2175'	113,3
	SKOTARSKY	66	5 YRS.	24.3	21.0	30.0	40.8	51.8	55.4	60.1	57.6	52.2	44.6	36.0	27.5	42.1	83.0	-3.7	MAY	OCTOBER	161	1.5	2.3	2.0	2.4	4.6	4.5	5.4	5.0	3.3	3.9	2.6	1.4	38.9	48°45'	2594'	105,3
	UZHOROD	67	29 YRS.	26.4	30.4	39.4	50.0	60.4	64.9	68.2	66.6	59.5	50.7	39.0	31.1	48.9	88.5	0.3	JUNE	OCTOBER	122	1.8	1.7	1.9	2.0	2.6	4.1	3.2	2.6	2.3	2.9	2.4	2.3	30.3	48°36	420'	62,9

---CZECHOSLOVAKIAN A

Province	Meteorological Station Ref. No.		Length Growing Period in Days
Bohemia---	1	As	168
	2	Bila Tremesna	153
	3	Brezore Hory	174
	4	Caslav	158
	5	Ceska Lipa	174
	6	Cesky Krumlov	164
	7	Cheb	150
	8	Donnersberg	92
	9	Hlinsko	143
	10	Hradec Kralove	173
	11	Iglau (Jihlava)	-
	12	Jince	170
	13	Kadan	166
	14	Karlovy Vary (Carlsbad)	123
	15	Klatovy	163
	16	Kralupy	191
	17	Liberec	149
	18	Litvinovice (Ces Budejovice) (Budweis)	123
	19	Most	202
	20	Pardubice	123
	21	Pisek	153
	22	Plzen	172
	23	Policka	105
	24	Prag	153
	25	Prepere	123
	26	Rozmital	149
	27	Schneckoppe	-
	28	Tabor	163
	29	Trebon	189
	30	Ustinl	212
	31	Zamberk	153

---CZECHOSLOVAKIAN AREAS---

Province	Meteorological Station Ref. No.		Length of Growing Period in Days	Latitude	Altitude
Bohemia---	1	As	168	50° 15'	2194'
	2	Bila Tremsena	153	50° 27'	1082'
	3	Brezore Hory	174	49° 42'	1706'
	4	Caslav	158	49° 55'	823'
	5	Ceska Lipa	174	50° 42'	941'
	6	Cesky Krumlov	164	48° 49'	1670'
	7	Cheb	150	50° 05'	1584'
	8	Donnersberg	92	50° 33'	2756'
	9	Hlinsko	143	49° 46'	1935'
	10	Hradec Kralove	173	50° 15'	820'
	11	Iglau (Jihlava)	-	49° 24'	1738'
	12	Jince	170	49° 47'	1424'
	13	Kadan	166	50° 23'	932'
	14	Karlovy Vary (Carlsbad)	123	50° 13'	1398'
	15	Klatovy	163	49° 23'	1381'
	16	Kralupy	191	50° 14'	607'
	17	Liberec	149	50° 45'	1345'
	18	Litvinovice (Ces Budejovice) (Budweis)	123	48° 57'	1283'
	19	Most	202	50° 31'	885'
	20	Pardubice	123	50° 02'	747'
	21	Pisek	153	49° 45'	1223'
	22	Plzen	172	49° 45'	1151'
	23	Policka	105	49° 43'	1945'
	24	Prag	153	50° 05'	663'
	25	Prepere	123	50° 35'	787'
	26	Rozmital	149	49° 36'	1706'
	27	Schneekoppe	-	50° 44'	5249'
	28	Tabor	163	49° 25'	1496'
	29	Trebon	189	49° 00'	1433'
	30	Ustinl	212	50° 39'	610'
	31	Zamberk	153	50° 06'	1410'

SUPPLEMENTAL CHART NUMBER 1 - FOR SPRING CROPS ONLY

NORTH AMERICAN CLIMATIC ANALOGUES FOR CZECHOSLOVAKIA

(Based Upon Mid-April to Mid-October Meteorological Data)
(of Precipitation, Temperature and Growing Period.)

Meteorological Station and its Location Ref. No.		Length of Growing Period in Days	Latitude	Altitude
1	N.W. Wisconsin, (Ashland, Ashland County)	121	46° 30'	615'
2	N. Minn., (International Falls, Koochiching Co.)	100	48° 30'	1112'
3	N. Minn., (International Falls, Koochiching Co.)	100	48° 30'	1112'
4	N. Minn., (Ada, Norman County)	116	47° 20'	906'
5	N. Minn., (Winton, St. Louis County)	118	47° 55'	1325'
6	N. Minn., (Bagley, Clearwater County)	98	47° 35'	1438'
7	N. Minn., (International Falls, Koochiching Co.)	100	48° 30'	1112'
8	Alberta Canada (Banff)	-	51° 10'	
9	N. Minn., (Two Harbors, Lake County)	105	47° 05'	614'
10	N. Minn., (Warroad, Roseau County)	110	48° 55'	1069'
11	N. Minn., (Two Harbors, Lake County)	105	47° 05'	614'
12	N. Minn., (Ada, Norman County)	116	47° 20'	906'
13	N. Minn., (Crookston, Polk County)	131	47° 45'	863'
14	N. Minn., (International Falls, Koochiching Co.)	100	48° 30'	1112'
15	N. Minn., (Warroad, Roseau County)	110	48° 55'	1069'
16	N. Minn., (Ada, Norman County)	116	47° 20'	906'
17	N.W. Wis. (Weyerhaeuser, Rusk County)	120	45° 30'	1297'
18	N. Minn., (Warroad, Roseau County)	110	48° 55'	1069'
19.	N. Minn., (Ada, Norman County)	116	47° 20'	906'
20	N. Minn., (Ada, Norman County	116	47° 20'	906'
21	N. Minn., (Warroad, Roseau County)	110	48° 55'	1069'
22	N. Minn., (Warroad, Roseau County)	110	48° 55'	1069'
23	N. Minn., (Two Harbors, Lake County)	105	47° 05'	614'
24	N. Minn., (Ada, Norman County)	116	47° 20'	906'
25	N. Minn., (Winnibigoshish, Itasca County)	129	47° 30'	1300'
26	N. Minn., (International Falls, Koochiching Co.)	100	48° 30'	1112'
27	Canada (S.W. Point, Anticosti, Quebec)	-	49° 24'	-
28	N. Minn., (Warroad, Roseau County)	110	48° 55'	1069'
29	N.W. Wis. (Ashland, Ashland County)	121	46° 30'	615'
30	N. Minn., (Ada, Norman County)	116	47° 20'	906'
31	N. Minn., (Two Harbors, Lake County)	105	47° 05'	614'

SUPPLEMENTAL CHART NUMBER 2 - FOR WINTER CROPS MAINLY*

NORTH AMERICAN CLIMATIC ANALOGUES FOR CZECHOSLOVAKIA

(Based Upon Mid-September to Mid-May Meteorological Data)*
(of Precipitation and Temperature. Also, Based Upon the)
(Temperature Throughout the Year and Growing Period.)

Meteorological Station and its Location Ref. No.		Length of Growing Period in Days	Latitude	Altitude
1	N. Idaho, (Lakeview, Bonner County)	154	47° 55'	2250'
2	N. Idaho, (Lakeview, Bonner County)	154	47° 55'	2250'
3	W. Oregon (Dufur, Wasco County)	147	45° 30'	2000'
4	E. Wash., (Colfax, Whitman County)	115	46° 50'	2300'
5	W. Oregon (Bend, Deschutes County)	87	44° 05'	3629'
6	W. Oregon (Bend, Deschutes County)	87	44° 05'	3629'
7	E. Oregon (Grass Valley, Sherman County)	105	45° 30'	2381'
8	W. Oregon (Fortklamath, Klamath County)	-	42° 40'	4200'
9	N. Idaho (Lakeview, Bonner County)	154	47° 55'	2250'
10	W. Oregon (Bend, Deschutes County)	87	44° 05'	3629'
11	W. Oregon (Fortklamath, Klamath County)	-	42° 40'	4200'
12	E. Oregon (Dayville, Grant County)	131	44° 30'	2200'
13	E. Oregon (Prineville, Crook County)	111	44° 20'	2864'
14	W. Oregon (Bend, Deschutes County)	87	44° 05'	3629'
15	E. Oregon (Grass Valley, Sherman County)	105	45 30'	2381'
16	E. Oregon (Paisley, Lake County)	161	42° 40'	4400'
17	W. Oregon (Parkade, Hood River County)	152	45° 32'	1450'
18	E. Oregon (Grass Valley, Sherman County)	105	45° 30'	2381'
19	E. Oregon (Prineville, Crook County)	111	44° 20'	2864'
20	E. Wash. (Colfax, Whitman County)	115	46° 50'	2300'
21	W. Oregon (Bend, Deschutes County)	87	44° 05'	3629'
22	E. Oregon (Paisley, Lake County)	161	42° 40'	4400'
23	W. Oregon (Fortklamath, Klamath County)	-	42° 40'	4200'
24	E. Wash., (Colfax, Whitman County)	115	46° 50'	2300'
25	W. Oregon (Bend, Deschutes County)	87	44° 05'	3629'
26	E. Oregon (Grass Valley, Sherman County)	105	45° 30'	2381'
27	NE Wyo., (Dome Lake, Johnson County)	41	44° 35'	8821'
28	W. Oregon (Bend, Deschutes County)	87	44° 05'	3629'
29	E. Wash., (Colfax, Whitman County)	115	46° 50'	2300'
30	E. Oregon (Prineville, Crook County)	111	44° 20'	2864'
31	W. Oregon (Fortklamath, Klamath County)	-	42° 40'	4200'

Continued –

Province	Ref. No.	Meteorological Station	Le Gr Pe in
Moravia--	32	Brtnice	
	33	Brun (Brno)	
	34	Horni Moravka	
	35	Hranice	
	36	Krnov	
	37	Mikulov	
	38	Moravska Ostrava	
	39	Moravska Trebova	
	40	Napajedla	
	41	Novy Jicin	
	42	Olomouc (Olmutz)	
	43	Opava	
	44	Sumperk	
	45	Vsetin	
Slovakia--	46	Banska Stiavnica	
	47	Komarno	
	48	Kosice	
	49	Lucenec	
	50	Nitra	
	51	Piestany	
	52	Presov	
	53	Preszburg (Bratislava)	
	54	Rimavska Sobota	
	55	Selmecy Banya	
	56	Spisska Nova Ves	
	57	Stara Dala	
	58	Stary Smokevec	
	59	Trencin Teplice	
	60	Turciansky Sv. (Martin)	
	61	Zvolen	
Carp Ruthenia--	62	Arvavaralja	
	63	Bustino	
	64	Chust	
	65	Jasina	
	66	Skotarsky	
	67	Uzhorod	

SUPPLEMENTAL CHART NUMBER 1 - Cont'd.

Province	Meteorological Station Ref. No.		Length of Growing Period in Days	Latitude	Altitude
Moravia--	32	Brtnice	148	49° 18'	1683'
	33	Brun (Brno)	123	49° 12'	820'
	34	Borni Moravka	-	49° 36'	1591'
	35	Hranice	163	49° 33'	866'
	36	Krnov	173	50° 05'	1046'
	37	Mikulov	189	48° 47'	787'
	38	Moravska Ostrava	-	49° 50'	722'
	39	Moravska Trebova	138	49° 46'	1138'
	40	Napajadla	174	49° 10'	666'
	41	Novy Jicin	174	49° 35'	974'
	42	Olomouc (Olmutz)	92	49° 36'	863'
	43	Opava	181	49° 58'	886'
	44	Sumperk	160	49° 58'	1102'
	45	Vsetin	140	49° 21'	1155'
Slovakia--	46	Banska Stiavnica	149	48° 28'	2053'
	47	Komarno	181	47° 47'	367'
	48	Kosice	179	48° 42'	672'
	49	Lucenec	171	48° 19'	626'
	50	Nitra	191	48° 19'	462'
	51	Piestany	179	48° 37'	538'
	52	Presov	183	49° 00'	886'
	53	Pressburg (Bratislava)	198	48° 11'	502'
	54	Rimavska Sobota	170	48° 23'	705'
	55	Salmecy Banya	153	48° 27'	2034'
	56	Spisska Nova Ves	113	48° 57'	1528'
	57	Stara Dala	123	47° 53'	390'
	58	Stary Smokovec	92	49° 08'	3339'
	59	Trencin Teplice	170	48° 55'	902'
	60	Turciansky Sv. (Martin)	147	49° 02'	1322'
	61	Zvolen	153	48° 35'	981'
Carp Ruthenia--	62	Arvavaralja	123	49° 16'	1693'
	63	Bustino	173	48° 02'	659'
	64	Chust	173	48° 11'	574'
	65	Jasina	127	48° 16'	2175'
	66	Skotarsky	161	48° 45'	2594'
	67	Uzhorod	122	48° 36'	420'

Meteorological Station and its Location Ref. No.		Length of Growing Period in Days	Latitude	Altitude
32	N. Minn., (Itasca State Park, Clearwater County)	101	47° 10'	1500'
33	N. Minn., (Ada, Norman County)	116	47° 20'	906'
34	East. Penn., (Mount Pocono, Monroe County)	-	39° 10'	7200'
35	N. Minn., (Winton, St. Louis County)	118	47° 55'	1325'
36	N. Minn., (Crookston, Polk County)	131	47° 45'	863'
37	N. Minn., (Ada, Norman County)	116	47° 20'	906'
38	N.W. Wis. (Weyerhaeuser, Rusk County)	120	45° 30'	1297'
39	N. Minn., (International Falls, Koochiching Co.)	100	48° 30'	1112'
40	N. Minn., (Ada, Norman County)	116	47° 20'	906'
41	N.W. Wis. (Weyerhaeuser, Rusk County)	120	45° 30'	1297'
42	N. Minn., (Ada, Norman County)	116	47° 20'	906'
43	N. Minn., (States Sanatorium, Cass County)	132	47° 05'	1336'
44	N.W. Wis. (Ashland, Ashland County)	121	46° 30'	615'
45	N.W. Wis. (Weyerhaeuser, Rusk County)	120	45° 30'	1297'
46	N.W. Wis. (Weyerhaeuser, Rusk County)	120	45° 30'	1297'
47	N.W. Neb. (Lodgepole, Cheyenne County)	130	41° 05'	3820'
48	S.W. Minn. (Long Prairie, Todd County)	128	46° 00'	1299'
49	S.W. Minn. (Long Prairie, Todd County)	128	46° 00'	1299'
50	S.E. Minn. (Collegeville, Stearns County)	142	45° 35'	1242'
51	S.E. Minn. (Collegeville, Stearns County)	142	45° 35'	1242'
52	S.E. Minn. (Collegeville, Stearns County)	142	45° 35'	1242'
53	S.E. Minn. (Red Wing, Goodhue County)	157	44° 35'	708'
54	S.E. Minn. (Hutchinson, McLeod County)	131	45° 00'	1040'
55	N.W. Wis. (Weyerhaeuser, Rusk County)	120	45° 30'	1297'
56	N. Minn., (International Falls, Koochiching Co.)	100	48° 30'	1112'
57	S.E. Minn. (Collegeville, Stearns County)	142	45° 35'	1242'
58	Canada (S.W. Point, Anticosti Quebec)	-	49° 24'	-
59	N.W. Wis. (Weyerhaeuser, Rusk County)	120	45° 30'	1297'
60	N.W. Wis. (Weyerhaeuser, Rusk County)	120	45° 30'	1297'
61	N.W. Wis. (Weyerhaeuser, Rusk County)	120	45° 30'	1297'
62	N.W. Wis. (Weyerhaeuser, Rusk County)	120	45° 30'	1297'
63	N.W. Wis. (Eau Claire, Eau Claire County)	180	44° 50'	800'
64	N.W. Wis. (Eau Claire, Eau Claire County)	180	44° 50'	800'
65	N.W. Wis. (Weyerhaeuser, Rusk County)	120	45° 30'	1297'
66	N.W. Wis. (Weyerhaeuser, Rusk County)	120	45° 30'	1297'
67	N.W. Wis. (Eau Claire, Eau Claire County)	180	44° 50'	800'

SUPPLEMENTAL CHART NUMBER 2 - Cont'd.

Meteorological Station and its Location Ref. No.		Length of Growing Period in Days	Latitude	Altitude
32	N. Idaho (Lakeview, Bonner County)	154	47° 55'	2250'
33	N. Idaho (Moscow, Latah County)	153	46° 45'	2748'
34	N. Idaho (Standpoint*, Bonner County)	120	48° 20'	2100'
35	N. Idaho (St. Maries, Benewah County)	136	47° 25'	2155'
36	E. Oregon (Grass Valley, Sherman County)	105	45° 30'	2381'
37	E. Oregon (La Grande Union County)	172	45° 20'	2784'
38	N. Idaho (Lakeview, Bonner County)	154	47° 55'	2250'
39	N. Idaho (Moscow, Latah County)	153	46° 45'	2748'
40	W. Oregon (Klamath Falls, Klamath County)	139	42° 10'	4100'
41	E. Wash., (Colfax, Whitman County)	115	46° 50'	2300'
42	N. Idaho (Moscow, Latah County)	153	46° 45'	2748'
43	E. Oregon (Paisley, Lake County)	161	42° 40'	4400'
44	W. Oregon (Bend, Deschutes County)	87	44° 05'	3629'
45	N. Idaho (Moscow, Latah County)	153	46° 45'	2748'
46	N. Idaho (Standpoint*, Bonner County)	120	48° 20'	2100'
47	E. Oregon (La Grande, Union County)	172	45° 20'	2784'
48	N. Idaho (Cottonwood, Idaho County)	115	46° 00'	3411'
49	N. Idaho (Cottonwood, Idaho County)	115	46° 00'	3411'
50	E. Oregon (La Grande, Union County)	172	45° 20'	2784'
51	E. Oregon (La Grande, Union County)	172	45° 20'	2784'
52	E. Wash., (Goldendale, Klickitat County)	132	45° 50'	1600'
53	W. Oregon (Klamath Falls, Klamath County)	139	42° 10'	4100'
54	S. Idaho (Caldwell, Canyon County)	146	43° 40'	2372'
55	N. Idaho (Cottonwood, Idaho County)	115	46° 00'	3411'
56	N. Idaho (Standpoint*, Bonner County)	120	48° 20'	2100'
57	N. Idaho (Coeur d'Alene, Kootenai County)	134	47° 45'	2157'
58	N. Idaho (Standpoint*, Bonner County)	120	48° 20'	2100'
59	N. Idaho (St. Maries, Benewah County)	136	47° 25'	2155'
60	N. Idaho (Moscow, Latah County)	153	46° 45'	2748'
61	N. Idaho (Potlatch, Latah County)	120	46° 55'	2550'
62	N. Idaho (Priest River Exp. Sta. Bonner Co.)	95	48° 25'	2380'
63	N. Idaho (Cottonwood, Idaho County)	115	46° 00'	3411'
64	S. Idaho (Burley, Cassia County)	130	42° 30'	4180'
65	N. Idaho (Standpoint*, Bonner County)	120	48° 20'	2100'
66	N. Idaho (Standpoint*, Bonner County)	120	48° 20'	2100'
67	N. Idaho (Moscow, Latah County)	153	46° 45'	2748'

* The spelling of "Standpoint" is according to U.S. Weather Bureau records and "Sandpoint" according to U.S. atlas.

POLAND[1] AND ITS CLIMATE, INCLUDING SOME OF THE ADJACENT GERMAN PROVINCES

The whole of Poland, except the southern fringe on the slopes of the Carpathians, lies within the great European plain and extends from 15°42' to 28°22' east longitude and from 47°44' to 55°51' north latitude.

A study of the climate of Poland, and the adjacent German Provinces west of it, in terms of North American regions located within similar latitudes and within similar precipitation-distribution conditions, reveals the prevalence of considerably milder winter conditions in the European territory. The influence of the warm winds from the Atlantic Ocean and probably, to some extent, the proximity of the Baltic Sea seem to be responsible for the comparatively mild weather conditions that prevail in Poland. The western winds coming from the Atlantic Ocean proceed unhampered across central Europe and across Poland inasmuch as no high mountain ranges obstruct their paths. These western winds subject the country to maritime influences in the warm, as well as the cold, season.

The undulating plain, which forms the greater part of Poland, has no natural boundaries. On the east it fades into the territory of the Soviet Union and, in the west, into Germany. Much of the country is 500 feet, or less, above sea level, and nearly the whole of it is less than 2,000 feet in altitude. It is not, however, to be looked upon as a flat plain or even as a gently undulating area, such as the prairie regions of North America, for it is broken up by a multitude of small hills and even by mountain ranges reaching up to 4,000 feet along the extreme southern boundary of the country. The area of Poland is about 140,000 square miles, slightly less than that of the State of Montana. Prior to the recent war, the country was divided into 16 administrative Provinces, which are indicated and referred to on the accompanying maps and charts.

Physically, the country divides into four unequal east-to-west strips. These are:

The lake country on the extreme northwest (Pomerania) and northeast (Wilno) - a glaciated area with numerous lakes and swamps.

The great central plain of Poland - an area intersected by rivers, with huge stretches of rolling farm land, as well as extensive sandy ridges, and vast marshlands on the west (Poznan marshes) and even greater ones on the east (Pinsk marshes).

The plateau region - a low plateau, nearly the whole of which is covered with a very fertile loess soil, with Lodz and Lublin among its important Provinces.

The Carpathian region of the south - a belt of forest-covered mountains and foothills, as well as the Carpathian plain extending from west to east along the Upper Vistula, the San, and the Dniester Rivers.

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[1] Prewar boundaries.

The total annual precipitation of Poland and the adjacent German Provinces is generally slightly more than 20 inches, but in some of the higher elevations it is much greater, amounting to 42 inches. The rainfall is fairly well distributed throughout the year, although summer is the season when it is slightly more frequent and heavier. This suggests the distribution that is characteristic of the Middle West of the United States and of the Prairie Provinces of Canada. For most of Poland, July is the month of heaviest rainfall. In the southern and central parts, the month of least precipitation is January, or February; in northern and northeastern parts, March.

The summers of Poland and the adjacent German Provinces are fairly cool, the mean July temperature falling generally below 66° F. Such summer temperatures are characteristic of a number of areas in North America, some of which are located within the same range of latitudes as Poland and its adjacent territories and others within higher altitudes of the more southern regions of North America. The winters of Poland are fairly mild. The mean temperature of the coldest month for the great majority of stations is seldom below 23° F. and often above 25°. In the adjacent German Provinces, the winters are even milder, the mean temperature of the coldest month frequently being 30° at some stations. Similar winter temperatures only occur in North America in areas either considerably south of the latitudes of Poland, or within similar latitudes but where the type of precipitation distribution is not characteristic of Poland or of the adjacent east German Provinces.

While referring to the temperature conditions, one should note that, although the summer temperatures throughout Poland and the adjacent German Provinces are fairly uniform within a similar-latitude altitude position of various stations, such is not exactly the case in regard to the winter temperatures. As one may see from the climatological chart, the winter temperatures decrease somewhat from west to east. A line drawn, for instance, from Poznan on the west (longitude 16°58') to Pinsk on the east (longitude 26°07') demonstrates this point. The following mean temperatures for January and July are found along such a line (in degrees Fahrenheit):

	Poznan	*Wloclawek*	*Warsaw*	*Brest-Litowsk*	*Pinsk*
January	28.5	26.4	25.5	23.3	22.3
July	65.9	66.0	66.0	66.0	66.2

One may note that the winter temperatures decrease from west to east by 6.2 degrees, whereas the summer temperatures remain practically unchanged. This may suggest that, whereas the summer marine character is carried far into the Continent by the unhindered west current proceeding eastward, the winter maritime character is progressively modified by continental influences.

In formulating North American climatic analogues for Poland and the German Provinces included, four different approaches suggest themselves. All are considered in this study and may be described as follows:

1. United States Climatic Analogues for Poland and the Adjacent German Provinces on the Basis of Climatic Conditions Prevailing Throughout the Year but Outside Their Latitude Ranges

Very satisfactory United States climatic analogues may be found about 5° to 19° south of the latitudes of Poland and the adjacent German Provinces. The temperatures throughout the year, the total precipitation and its monthly distribution, the precipitation-effectivity indexes, and, within certain limits, the length of frostless periods are all quite similar to those of Poland and the territories adjacent on the west.

The similarity in temperature, in spite of differences in latitude, is due to (a) the higher altitude position of most of these United States climatic analogues as compared with that of their European counterparts and (b) the much milder climatic conditions prevailing in that European territory than would be anticipated from its latitude position.

As may be seen from the attached agro-climatic chart, such United States climatic analogues for Poland and the adjacent German Provinces are to be found mainly in the upland valleys and in the plateau regions of Colorado and New Mexico at an altitude between 4,000 and 10,000 feet, in Montana at an altitude of 4,000 to 7,000 feet, and in Michigan between 500 and 600 feet. The analogues farthest off from the latitude range of Poland are, of course, those of New Mexico-Colorado. The Polish climatic analogues there, one should note, are in the high-altitude stations reflecting microclimatic conditions relatively limited in area and application and not at all typical of the region as a whole.

This approach, or substituting altitude for latitude, may carry with it some photoperiodic, or other, implications with some plant material; although, on the whole, the vertical zonation of climate and vegetation appears to be similar to the zonation due to increase in latitude.

2. North American Climatic Analogues for Poland and the Adjacent German Provinces Within Their Approximate Latitudes on the Basis of Temperature Conditions Throughout the Year and of Precipitation Conditions Prevailing Only From Mid-September to Mid-May

Limiting attention mainly to the climatic environment of winter crops, which are the most important insofar as the small-grain crops of Poland are concerned, one could take advantage of the climatic conditions of northern Idaho and British Columbia. In those regions, the latitude ranges, the temperature conditions throughout the year, the length of growing period, and the moisture conditions during the fall, winter, and spring are quite similar to those of Poland and the adjacent German Provinces. Climatic analogues found in those regions have been suggested in supplemental chart No. 1, included.

3. Climatic Analogues for Poland and the Adjacent German Provinces Within the Irrigated Areas of North America on the Basis of Latitude and All Climatic Conditions Except Natural Precipitation During the Summers

Except for summer droughts, the regions of northern Idaho and British Columbia seem to be the most logical areas for climatic analogues for Poland and the adjacent territories on the west. This region is the only place in North America where both winter and summer temperatures of Poland and the neighboring German territories prevail within reasonably similar latitude ranges. The similarity of these northwestern regions of North America to those of Poland and the German Provinces in their year-round temperature conditions, in the length of frostless periods, in latitude ranges, and in precipitation conditions prevailing during the major part of the winter-crop period of the year has been mentioned in the preceding paragraph.

Some of the various points in Idaho and British Columbia indicated in supplemental chart No. 1, and which have been suggested as sources of winter-crop seed for Poland and the adjacent territory on the west, produce also spring crops through the use of irrigation during the moisture-deficit period of the summer. Since moisture is no longer a limiting factor there in spring-crop production, and since all the other elements of comparison used in this study point to those regions as the best North American counterparts of the European regions under consideration, one may well think of northern Idaho and British Columbia as potential sources of spring-crop seed for Poland and the adjacent territory on the west. Supplemental chart No. 1, therefore, may be used also as a reference for spring-crop areas.

This chart has been formulated on the basis of winter-crop climatic environment. In selecting the climatic analogues of the chart, however, the year-round temperatures and the length of frostless periods also were taken into account. Thus, each climatic analogue of this supplemental chart represents similarities to the respective Polish, etc., station with regard to all climatic factors affecting the winter-crop period, as well as with regard to the similarities of year-round temperature conditions and length of frostless periods.

4. North American Climatic Analogues for Poland and Adjacent German Territory Within Their Latitudes but on the Basis of Temperatures Prevailing Only From Mid-April to Mid-October and Precipitation-Distribution Conditions

The relatively mild winters of Poland and the Provinces adjacent to its western border do not permit the formulation of climatic analogues in those areas of North America which have both the latitude range and the type of precipitation distribution characteristic of Poland. If, however, attention is limited to the climatic conditions prevailing during the growing period only (mid-April to mid-October); that is, if one thinks only in terms of spring-planted and fall-harvested crops, the formulation of North American climatic analogues within the right latitudes and with the right precipitation distribution is possible. Such analogues in Minnesota, Montana, Alberta, Manitoba, and Saskatchewan have been suggested in supplemental chart No. 2, included. This approach may be justified from the point of view of some of the practical agronomic problems of plant introduction of spring crops. The preceding winter temperatures and their cumulative effect on the soil temperature at the time of spring planting may, however, carry certain implications as to germination of seed and its effect on the life cycle of the plant.

Precipitation Effectivity Index
52.3
50.1
62.0
44.3
58.4
52.4
43.5
41.7
40.9
61.0
48.8
62.4
87.4
60.9
60.1
114.3
43.4
46.8
47.2
49.0
50.3
55.9
50.1
48.7
64.1
62.7
61.6
54.3
90.3
53.1
55.3
52.3
48.4
52.5
55.2
50.8
39.4
42.9
60.1
40.8
60.0

tinued

Station Reference Number	CLIMATIC PARALLEL IN THE UNITED STATES BASED UPON METEOROLOGICAL DATA ONLY	Altitude	Latitude
1	N.C. Montana (Lewiston, Fergus Co.). 4½" less precipitation.	4006'	47°05'
2	N.C. Montana (Lewiston, Fergus Co.). 4" less precipitation.	4006'	47°05'
3	E.L. Michigan (Harbor Beach, Huron Co.). 3" more precipitation. Somewhat warmer summers.	635'	43°50'
4	S.E. Colorado (Monument, El Paso Co.).	4200'	39°10'
5	S.E. Colorado (Monument, El Paso Co.). 5" less precipitation.	4200'	39°10'
6	S.W. Montana (Norris, Madison Co.). About 5" less precipitation.	4729'	45°40'
7	S.W. Montana (Norris, Madison Co.). 2½" less precipitation.	4729'	45°40'
8	S.W. Montana (Norris, Madison Co.). 4½" less precipitation.	4729'	45°40'
9	N.C. Montana (Lewiston, Fergus Co.). 4" less precipitation.	4006'	47°05'
10	W.L. Michigan (Frankfort, Benzie Co.). Somewhat cooler Jan. to June. Slightly warmer June to Dec. 3" more precipitation.	589'	44°45'
11	E.L. Michigan (Harbor Beach, Huron Co.). 5" more precipitation. Slightly cooler winters and somewhat warmer summers.	635'	43°50'
12	W. New York (Appleton, Niagara Co.). Slightly cooler Dec.-June. Somewhat warmer June-Nov.	300'	43°20'
13	Upper Michigan (Manisque, Schoolcraft Co.). Slightly cooler winters and slightly warmer summers.	613'	46°
14	W. New York (Appleton, Niagara Co.). Somewhat cooler Jan.-May. Slightly warmer June-Nov.	300'	43°20'
15	E.L. Michigan (Harbor Beach, Huron Co.). Slightly cooler November-May.	635'	43°50'
16	S.C. New York (New Lisbon, Otsego Co.). 2" less precipitation. Somewhat warmer April-October.	1234'	42°40'
17	N.E. Colorado (Castle Rock, Douglas Co.). 2" less rainfall.	6201'	39°25'
18	S.W. Montana (Norris, Madison Co.). 3" less precipitation.	4729'	45°40'
19	S.E. Colorado (Monument, El Paso Co.).	4200'	39°10'
20	E.L. Michigan (Harbor Beach, Huron Co.). Slightly cooler January-May. 4" more precipitation.	635'	43°50'
21	E.L. Michigan (Harbor Beach, Huron Co.). 4" more precipitation.	635'	43°50'
22	E.L. Michigan (Harbor Beach, Huron Co.). 4" more precipitation.	635'	43°50'
23	S.W. Montana (Norris, Madison Co.). Slightly warmer. 5" less precipitation.	4729'	45°40'
24	E.L. Michigan (Harbor Beach, Huron Co.). 3" more precipitation.	635'	43°50'
25	N.E. New Mexico (Harvey's Upper Ranch, San Miguel Co.). Slightly cooler.	9400'	35°45'
26	E.L. Michigan (Harbor Beach, Huron Co.). Somewhat cooler January-May. Slightly warmer June-October.	635'	43°50'
27	W.New York (Appleton, Niagara Co.). Somewhat cooler February-May. Slightly warmer June-December.	300'	43°20'
28	E.L. Michigan (Harbor Beach, Huron Co.). Slightly cooler most of the year.	635'	43°50'
29	Upper Michigan (Manisque, Schoolcraft Co.). Slightly cooler winters. Slightly warmer summers.	613'	46°
30	E.L. Michigan (Harbor Beach, Huron Co.). Slightly cooler. 4" more precipitation.	635'	43°50'
31	E.L. Michigan (Omer, Arenac Co.). Slightly colder winters. Slightly warmer summers.	616'	44°10'
32	E.L. Michigan (Omer, Arenac Co.). Slightly cooler December-February. Somewhat warmer June-October.	616'	44°10'
33	S.W. Montana (Utica, Judith Basin Co.). Slightly cooler. 5" less precipitation.	5000'	47°
34	N.C. Montana (Lewiston, Fergus Co.). 3" less precipitation.	4006'	47°05'
35	S.E. Colorado (Santa Clara, Huerfano Co.). 2" more rainfall.	8250'	37°30'
36	N.E. New Mexico (Rociada, San Miguel Co.).	7150'	35°50'
37	S.E. Wyoming (Chugwater, Platte Co.). 2" less precipitation.	5282'	41°45'
38	N.E. Colorado (Idaho Springs, Clear Creek Co.). 2" less precipitation.	7543'	39°45'
39	S.E. Colorado (Monument, El Paso Co.). 4" less precipitation.	4200'	39°10'
40	S.W. Montana (Norris, Madison Co.). About 1½" less precipitation.	4729'	45°40'
13a	E.L. Michigan (Harbor Beach, Huron Co.). Somewhat cooler winters.	635'	43°50'

AGRO-CLIMATIC CHART FOR PRE-WAR PROVINCES OF POLAND, CERTAIN AREAS OF PRE-WAR GERMANY EAST OF THE ODER AND BOBER RIVERS, AND CLIMATIC ANALOGUES IN THE UNITED STATES

(Based on Monthly and Annual Meteorological Data)

				MEAN TEMPERATURE															KILLING FROST			AVERAGE PRECIPITATION															
PROVINCE	Meteorological Station	Station Reference Number	Length of Record	January	February	March	April	May	June	July	August	September	October	November	December	Yearly	Abs. Max.	Abs. Min.	Last in Spring	First in Fall	No. of Frostless Days	January	February	March	April	May	June	July	August	September	October	November	December	Yearly	Latitude	Altitude	Precipitation Effectivity Index
Bialystok	Bialystok	1	49 yrs.	23.7	24.8	31.6	43.7	55.1	63.0	65.5	63.3	55.4	45.0	33.8	26.2	44.3	88.2	-12.3	May	October	170	1.0	1.3	1.0	1.7	2.0	3.2	3.4	2.8	1.7	1.3	1.5	1.4	22.7	53°08'	450'	52.3
	Grodno	2	6 yrs.	23.3	19.2	27.3	40.8	56.9	59.0	64.8	61.5	53.3	45.5	36.5	26.8	43.0	90.0	-15.0	May	October	148	0.9	0.9	0.5	1.1	2.4	2.7	2.3	4.2	1.7	2.1	1.8	1.0	21.8	53°06'	429'	50.1
	Suwalki	3	49 yrs.	22.1	22.9	29.6	41.7	53.6	61.2	64.8	62.1	54.2	43.9	31.3	25.0	42.8	87.1	-13.0	May	September	144	1.4	1.3	1.2	1.9	1.9	3.2	3.2	3.0	1.8	1.5	1.8	1.7	24.2	54°06'	571'	62.0
Kielce	Busko	4	4 yrs.	27.3	26.4	33.5	44.3	58.1	61.7	66.4	63.3	54.3	47.3	37.2	27.3	45.5	89.4	- 2.4	April	October	186	0.7	0.8	0.7	1.3	1.4	2.1	3.5	3.3	2.8	1.8	1.5	0.8	20.8	50°27'	795'	44.3
	Czestochowa	5	6 yrs.	27.3	24.4	31.1	43.2	56.9	60.8	66.4	62.8	55.8	47.9	39.0	29.3	45.5	92.5	- 5.5	May	October	171	1.4	1.3	1.0	2.1	2.6	2.4	2.9	3.6	2.3	1.9	1.9	1.2	25.0	50°49'	825'	58.4
	Kielce	6	7 yrs.	26.3	23.7	30.7	42.6	56.1	61.0	66.4	63.3	56.1	47.5	37.4	26.9	45.0	90.0	-6.4	May	October	170	1.1	1.0	0.8	1.5	2.2	2.4	3.0	3.4	2.4	1.7	1.9	1.2	23.9	50°53'	931'	52.4
	Ostrowiec	7	7 yrs.	25.3	22.4	32.9	42.1	56.0	59.9	67.0	64.4	56.5	47.7	37.8	28.7	45.2	91.1	-10.5	May	September	139	0.8	0.9	0.9	1.2	2.2	3.4	2.2	2.7	1.9	1.4	1.3	0.9	20.0	50°57'	647'	43.5
	Radom	8	7 yrs.	26.6	24.1	33.6	43.2	55.8	60.5	66.0	63.2	55.8	47.9	38.0	27.5	45.3	91.6	- 9.4	April	October	177	0.9	0.8	0.9	1.2	2.9	2.3	2.7	3.7	2.3	1.5	1.7	1.2	23.1	51°24'	558'	41.7
	Wierzbno	9	6 yrs.	21.9	15.6	31.6	45.5	56.9	60.8	65.2	63.2	56.3	47.5	36.3	30.0	44.2	90.3	-10.7	May	October	163	0.6	0.5	0.7	1.5	2.4	3.0	2.6	3.2	2.5	1.5	0.9	0.7	22.2	50°09'	733'	40.9
	Zabkowice	10	49 yrs.	25.0	26.9	33.6	44.4	54.2	60.8	63.5	61.7	55.1	46.4	33.7	27.3	44.4	- -	- -	--	--	--	1.3	1.4	1.3	1.9	2.6	3.4	3.9	3.1	2.1	1.9	1.4	1.5	26.3	50°21'	993'	61.0
	Zdanow	11	6 yrs.	24.8	21.9	33.8	42.3	56.0	60.1	65.3	62.8	56.0	47.0	36.0	26.4	44.6	89.4	-3.1	April	October	167	0.8	0.7	0.9	1.7	2.1	2.7	2.6	3.1	2.5	1.7	1.7	1.1	21.8	50°43'	779'	48.8
Krakow	Krakow	12	49 yrs.	26.0	28.4	35.6	46.2	56.0	62.6	65.7	63.9	57.0	47.9	36.0	28.0	46.1	89.6	-3.8	April	October	187	1.0	1.8	1.5	1.8	2.7	4.3	5.0	3.7	2.4	2.0	1.5	1.3	28.9	50°04'	726'	62.4
	Krynica •	13 13a	49 yrs.	21.2	24.2	31.1	41.4	50.9	57.8	60.3	58.8	52.9	44.4	32.6	24.8	41.7	83.5	-7.6	May	October	162	1.9	2.1	1.8	2.5	3.0	4.4	4.7	3.3	2.9	2.1	1.7	2.0	33.4	49°24'	1934'	87.4
	Tarnow	14	49 yrs.	27.0	29.8	37.0	47.3	57.2	64.1	66.6	65.3	58.5	49.5	37.2	29.5	47.5	93.6	-7.6	April	October	178	1.1	1.5	1.5	1.9	3.0	4.5	5.0	3.0	2.0	1.9	1.7	1.3	28.8	50°04'	726'	60.9
	Wiliczka	15	17 yrs.	29.3	26.9	35.8	45.5	57.0	61.0	67.1	64.1	58.1	49.3	39.0	28.7	46.6	92.0	-6.4	April	October	183	1.2	1.1	1.3	1.9	2.6	4.5	3.3	3.5	2.6	2.0	2.0	1.1	26.2	49°59'	815'	60.1
	Zakopane	16	12 yrs.	23.0	19.9	28.2	37.8	49.5	54.5	59.4	57.2	50.6	42.8	34.2	23.7	40.1	84.2	-16.6	June	September	118	1.4	1.8	2.0	2.6	4.4	4.7	6.0	6.5	5.1	3.2	2.3	1.5	42.5	49°17'	2749'	114.3
Lodz	Kalisz	17	49 yrs.	27.5	29.6	35.1	45.9	56.0	63.7	66.2	64.4	57.2	47.5	36.7	29.5	46.6	92.5	-2.0	April	October	178	1.1	1.1	1.4	1.6	2.0	2.2	3.0	1.8	1.4	1.2	1.3	1.2	19.6	51°46'	360'	43.4
	Piotrkow	18	49 yrs.	26.0	27.7	34.4	45.0	55.5	62.6	65.0	63.2	56.2	46.6	35.4	28.0	45.5	90.0	-3.7	May	October	164	1.4	1.1	1.3	1.8	1.7	2.5	3.2	1.9	1.6	1.2	1.3	1.1	20.5	51°25'	683'	46.8
	Sokolniki	19	8 yrs.	28.9	27.8	34.4	43.5	56.0	59.7	65.0	62.6	56.0	47.3	38.5	29.6	45.0	90.5	-2.9	May	October	164	1.2	0.7	0.9	1.4	2.1	2.4	3.5	3.7	1.9	1.7	1.3	0.8	21.9	51°18'	604'	47.2
Lublin	Chelm	20	49 yrs.	23.7	25.7	31.3	44.8	56.3	63.3	66.0	64.4	56.9	46.6	34.7	26.8	45.2	88.2	-12.8	May	October	173	1.0	1.2	0.9	1.6	2.0	3.3	3.7	2.3	1.7	1.5	1.4	1.2	22.2	51°08'	624'	49.0
	Korczew	21	3 yrs.	24.8	23.0	30.2	41.4	57.8	59.7	66.6	63.0	54.7	45.9	35.1	27.3	43.9	88.9	-7.4	April	October	185	0.8	1.3	0.7	0.8	2.4	2.3	2.9	4.4	2.5	2.1	1.1	1.0	22.6	52°21'	449'	50.3
	Lublin	22	7 yrs.	25.3	22.4	32.6	42.6	56.3	61.0	66.2	63.2	55.6	47.1	37.6	26.7	45.0	91.8	-10.7	April	October	178	1.0	1.2	1.0	1.7	2.1	2.1	3.0	3.9	2.3	1.7	1.7	1.6	23.6	51°14'	603'	55.9
	Pulawy	23	49 yrs.	25.1	26.9	34.0	45.5	56.1	63.2	65.5	63.9	56.7	46.8	35.4	27.8	45.5	91.1	-8.9	April	October	183	1.1	1.2	1.1	1.6	2.2	3.2	3.8	2.7	1.5	1.3	1.4	1.3	22.9	51°25'	683'	50.1
	Tomaszow	24	7 yrs.	24.8	22.6	32.0	42.8	57.2	60.3	65.9	63.5	55.8	47.0	36.7	25.8	44.8	87.5	-8.9	April	October	169	0.7	0.9	1.0	1.6	2.5	3.2	3.0	3.4	2.0	1.8	1.8	1.0	23.6	50°26'	694'	48.7
Lwow	Dabrowka	25	8 yrs.	27.5	25.5	32.7	44.6	56.7	60.1	61.7	63.7	56.3	48.6	39.8	28.6	45.9	90.2	-10.9	April	October	160	1.1	1.2	1.3	1.6	2.9	3.5	4.0	5.2	3.3	2.1	1.9	1.2	29.5	49°34'	1028'	64.1
	Glogow	26	9 yrs.	26.8	25.0	33.6	45.2	56.5	57.8	65.9	63.2	55.8	46.2	37.1	26.6	45.2	89.3	-11.4	--	--	--	1.4	1.2	1.5	1.9	2.6	3.7	3.6	4.1	2.2	1.8	1.7	1.3	27.3	50°09'	802'	62.7
	Lwow	27	49 yrs.	24.8	29.8	34.4	45.5	56.1	62.6	65.7	64.2	56.9	47.7	36.2	27.8	45.7	89.1	4.8	April	October	190	1.2	1.4	1.4	1.8	2.5	4.2	4.1	2.8	2.1	2.0	1.7	1.5	27.1	49°50'	983'	61.6
	Przemysl	28	7 yrs.	25.9	22.1	33.6	44.6	56.9	61.7	66.8	62.6	56.9	48.4	39.6	27.3	45.5	93.2	-12.3	April	October	162	1.0	0.9	1.1	1.7	2.2	2.8	3.0	4.1	3.2	1.5	1.9	1.0	24.7	49°47'	663'	54.3
	Smolnik	29	49 yrs.	21.2	22.8	30.9	41.9	52.2	58.1	61.3	60.1	53.4	45.1	33.5	25.1	42.1	- -	- -	--	--	--	1.6	1.7	1.7	2.4	3.2	5.1	4.8	3.3	2.5	2.9	2.3	1.6	33.9	49°16'	1739'	90.3
	Tarnobrzeg	30	4 yrs.	25.6	25.6	33.6	43.9	58.8	62.8	67.7	63.2	56.5	47.5	37.1	26.9	45.5	93.2	-4.1	April	October	178	1.3	1.1	0.8	1.4	1.9	2.3	3.1	3.8	3.0	1.9	1.9	1.2	22.2	50°34'	544'	53.1
Nowogrodek	Lida	31	7 yrs.	21.7	18.3	27.8	39.9	55.4	58.5	64.6	61.5	52.9	44.6	35.2	24.4	42.1	86.9	-14.5	May	October	151	0.7	0.9	0.8	1.4	2.8	2.5	2.5	4.1	2.2	2.5	1.8	1.0	24.0	53°51'	442'	55.3
	Slonim	32	6 yrs.	22.6	18.3	27.1	40.8	56.9	58.7	69.2	61.0	52.7	45.2	35.3	25.5	42.3	88.5	-16.3	May	October	160	0.9	1.1	1.0	1.1	2.1	2.1	3.0	3.1	2.5	2.2	1.8	1.1	22.2	53°06'	429'	52.3
Polesie	Brzesc Nad Bugiem/ (Brest Litowsk)	33	49 yrs.	23.3	25.3	32.9	44.8	56.6	63.5	66.0	63.9	56.3	45.5	34.4	26.6	45.0	81.1	-13.6	April	October	175	1.0	1.1	0.9	1.8	2.2	3.4	3.4	2.0	1.7	1.4	1.4	1.2	21.9	52°05'	430'	48.4
	Pinsk	34	49 yrs.	22.3	23.9	31.3	44.4	56.9	63.7	66.2	63.9	55.7	44.6	30.3	25.1	44.3	95.0	-24.0	May	October	172	1.1	1.2	1.1	1.9	1.9	3.0	3.7	2.2	1.8	1.6	1.5	1.4	21.0	50°07'	469'	52.5
Pomorze	Chojnice	35	8 yrs.	27.5	26.6	30.1	42.1	53.1	57.2	63.3	60.8	54.0	45.7	36.7	28.6	43.9	90.7	-5.5	May	October	154	1.0	1.3	0.9	2.4	2.1	2.5	3.0	2.4	2.7	2.2	1.4	1.4	24.5	53°42'	561'	55.2
	Gdynia	36	6 yrs.	30.2	27.5	33.1	40.3	51.8	57.0	63.3	61.7	55.4	48.4	40.3	33.1	45.2	86.6	1.2	April	October	191	0.9	1.0	0.8	1.5	2.5	2.5	2.3	2.8	3.0	2.2	1.4	1.5	22.7	54°31'	16'	50.6
	Grudziadz	37	6 yrs.	28.2	25.1	32.9	42.8	55.8	59.4	65.2	62.8	55.6	47.7	39.2	30.4	45.5	91.6	-9.8	May	September	144	0.8	0.9	0.6	0.9	2.4	2.6	2.7	2.2	2.0	1.7	1.1	0.8	18.9	53°06'	73'	39.4
	Hel	38	49 yrs.	30.0	30.4	31.1	40.7	48.9	58.1	63.0	63.2	58.3	48.2	39.0	32.6	45.5	83.0	10.2	May	October	172	1.1	1.0	1.0	0.9	1.3	1.6	2.3	2.6	1.9	1.7	1.8	1.5	19.2	54°36'	16'	42.9
	Koscierzyna	39	5 yrs.	27.7	28.4	31.4	42.1	59.6	57.4	63.3	57.9	51.8	42.8	33.8	28.9	44.6	90.3	-8.2	April	October	167	1.2	1.4	1.0	1.1	2.2	3.2	1.9	2.8	2.2	2.0	2.0	1.6	24.0	54°07'	551'	60.1
	Torun	40	7 yrs.	28.0	25.9	33.8	43.0	55.2	59.9	65.9	63.0	55.8	47.1	38.3	28.7	45.7	91.9	-8.7	May	October	150	1.0	0.9	0.7	1.0	2.7	2.7	2.5	2.0	1.6	1.6	1.2	0.7	18.9	53°01'	178'	40.5
Krakow	• Litusza	13a	6 yrs.	26.6	23.5	32.6	45.2	56.8	62.1	66.2	63.7	56.7	48.9	39.9	29.3	46.4	94.1	-18.4	May	October	145	0.9	1.3	1.3	1.4	2.4	2.9	3.7	3.9	2.6	2.3	1.8	1.1	25.8	49°42'	881'	60.0

Continued

(Continued on next page)

Precipitation Effectivity Index
40.7
46.1
41.9
42.4
42.4
105.4
54.1
50.6
47.3
55.7
46.9
48.6
43.9
40.7
47.8
48.7
44.5
54.3
54.9
67.7
56.8
48.7
47.4
59.8
79.1
64.4
72.5
73.0
50.1
60.7
60.1
63.9
63.7
62.7
57.8
56.3
53.0
53.3
49.2
59.3
53.3
108.8
57.2
115.7
72.0

Station Reference Number	CLIMATIC PARALLEL IN THE UNITED STATES BASED UPON METEOROLOGICAL DATA ONLY	Altitude	Latitude
41	S.E. Colorado (Monument, El Paso Co.).	4200'	39°10'
42	N.E. Colorado (Castle Rock, Douglas Co.). Slightly warmer. 2½" less precipitation.	6201'	39°25'
43	S.W. Montana (Norris, Madison Co.).	4729'	45°40'
44	S.E. Colorado (Monument, El Paso Co.).	4200'	39°10'
45	N.E. Colorado (Castle Rock, Douglas Co.). 2" less precipitation.	6201'	39°25'
46	E.L. Michigan (Harrisville, Alcona Co.). Somewhat cooler January-May. Slightly warmer June to Nov. 6" more precipitation.	616'	44°45'
47	S.E. Colorado (Monument, El Paso Co.). 4½" less precipitation.	7200'	39°10'
48	N.C. Montana (Lewiston, Fergus Co.). . 5" less precipitation.	4006'	47°05'
49	N.C. Montana (Lewiston, Fergus Co.). 4½" less precipitation.	4006'	47°05'
50	L.W. Michigan (Ludington, Mason Co.). Slightly cooler December-February. 2" more precipitation.	637'	43°55'
51	S.W. Montana (Norris, Madison Co.). 4" less precipitation.	4729'	45°40'
52	E.L. Michigan (Harbor Beach, Huron Co.). 3" more precipitation. Slightly cooler winters and slightly warmer summers.	635'	43°50'
53	S.W. Montana (Utica, Judith Basin Co.).	5000'	47°
54	S.W. Montana (Norris, Madison Co.). 1½" less precipitation.	4729'	45°40'
55	N.C. Montana (Lewiston, Fergus Co.). 4" less precipitation.	4006'	47°05'
56	S.W. Montana (Norris, Madison Co.). 4" less precipitation.	4729'	45°40'
57	S.W. Montana (Norris, Madison Co.). 2" less precipitation.	4729'	45°40'
58	E.L. Michigan (Omer, Arenac Co.). Slightly warmer summers and somewhat cooler winters.	616'	44°10'
59	E.L. Michigan (Omer, Arenac Co.). Slightly warmer summers and somewhat cooler winters.	616'	44°10'
60	E.L. Michigan (Alpena, Alpena Co.). 2" more precipitation.	609'	45°10'
61	E.L. Michigan (Omer, Arenac Co.). Slightly warmer summers and somewhat cooler winters.	616'	44°10'
62	N.C. Montana (Lewiston, Fergus Co.). 4" less precipitation.	4006'	47°05'
63	E.L. Michigan (Harbor Beach, Huron Co.). Slightly cooler February-May. 4" more precipitation.	635'	43°50'
64	W. Montana (Columbia Falls, Flathead Co.). Slightly warmer July-October.	3100'	48°25'
65	W.L. Michigan (Frankfort, Benzie Co.). Somewhat warmer summers.	589'	44°45'
66	N.E. New Mexico (Windsor's Ranch, San Miguel Co.). Slightly cooler summers.	8000'	35°50'
67	N.E. New Mexico (Windsor's Ranch, San Miguel Co.). Slightly cooler summers. 2½" less precipitation.	8000'	35°50'
68	N.E. New Mexico (Windsor's Ranch, San Miguel Co.). Slightly cooler summers. 3" less precipitation.	8000'	35°50'
69	S.W. Montana (Dillon, Beaverhead Co.). 3½" less precipitation.	5143'	45°50'
70	S.W. Montana (Mystic Lake, Stillwater Co.). Slightly cooler.	6545'	45°10'
71	W. Montana (Columbia Falls, Flathead Co.). Slight cooler winters.	3100'	48°25'
72	S.E. Colorado (Santa Clara, Huerfano Co.).	8250'	37°30'
73	S.E. Colorado (Santa Clara, Huerfano Co.).	8250'	37°30'
74	S.E. Colorado (Santa Clara, Huerfano Co.).	8250'	37°30'
75	S.E. Colorado (Monument, El Paso Co.). 4" less precipitation.	4200'	39°10'
76	S.E. Colorado (Monument, El Paso Co.). 2½" less precipitation.	4200'	39°10'
77	S.E. Colorado (Monument, El Paso Co.). 3" less precipitation.	4200'	39°10'
78	S.E. Colorado (Monument, El Paso Co.). 2" less precipitation.	4200'	39°10'
79	S.E. Colorado (Monument, El Paso Co.). Somewhat cooler. 3" less precipitation.	4200'	39°10'
80	S.E. Colorado (Santa Clara, Huerfano Co.).	8250'	37°30'
81	S.E. Colorado (Monument, El Paso Co.). Slightly cooler most of the year. 3" less precipitation.	4200'	39°10'
82	N.E. New Mexico (Harvey's Upper Ranch). 5" less precipitation.	9400'	35°45'
83	S.E. Colorado (Santa Clara, Huerfano Co.). Slightly cooler summers.	8250'	37°30'
84	N.E. New Mexico (Harvey's Upper Ranch). 6" less precipitation.	9400'	35°45'
85	S.E. Colorado (Santa Clara, Huerfano Co.).	8250'	37°30'

AGRO-CLIMATIC CHART FOR PRE-WAR PROVINCES OF POLAND,
CERTAIN AREAS OF PRE-WAR GERMANY EAST OF THE ODER AND BOBER RIVERS,
AND CLIMATIC ANALOGUES IN THE UNITED STATES

(Based on Monthly and Annual Meteorological Data)

POLAND ETC. (Continued)

				MEAN TEMPERATURE															KILLING FROST			AVERAGE PRECIPITATION															
PROVINCE	Meteorological Station	Station Reference Number	Length of Record	January	February	March	April	May	June	July	August	September	October	November	December	Yearly	Abs. Max.	Abs. Min.	Last in Spring	First in Fall	No. of Frostless Days	January	February	March	April	May	June	July	August	September	October	November	December	Yearly	Latitude	Altitude	Precipitation Effectivity Index
Poznan	Antoniny	41	7 yrs.	29.5	26.8	35.8	43.5	55.6	59.7	65.3	63.0	56.3	47.9	39.0	29.6	46.1	91.6	-11.16	May	October	151	1.1	0.8	0.7	1.6	2.1	2.4	2.8	2.4	1.8	1.9	1.4	0.7	20.0	51°51'	310'	40.7
	Bydgoszcz (Bromberg)	42	49 yrs.	27.7	29.1	34.4	44.8	54.2	62.1	65.5	63.5	56.2	46.2	36.3	29.8	45.9	90.5	2.8	May	October	160	1.2	1.1	1.7	1.3	2.0	2.2	2.5	2.0	1.5	1.2	1.4	1.4	20.2	53°08'	152'	46.1
	Gniezno	43	4 yrs.	26.8	27.3	32.4	42.5	57.4	59.7	65.0	62.3	55.1	46.8	37.2	28.6	45.9	90.6	-0.6	April	October	186	1.0	1.2	0.4	1.7	2.4	1.9	2.6	2.3	1.5	1.6	1.1	0.8	17.8	52°32'	386'	41.5
	Krotoszyn	44	4 yrs.	30.4	28.2	34.4	43.5	58.8	60.7	66.2	63.5	56.5	47.5	39.8	32.0	46.8	90.7	-4.8	April	October	197	0.8	0.9	0.4	2.4	2.4	2.8	3.8	2.1	2.3	2.2	0.7	0.6	21.0	51°41'	412'	42.4
	Poznan	45	49 yrs.	28.5	30.2	35.6	45.9	55.3	63.0	65.9	64.3	57.2	47.5	36.9	30.5	46.8	88.5	1.2	April	October	195	1.1	0.9	1.2	1.4	2.3	1.9	3.0	2.0	1.7	1.3	1.3	1.3	19.8	52°56'	228'	42.4
Slask	Istebna	46	49 yrs.	23.0	24.8	31.5	41.6	51.1	56.9	59.9	58.8	52.7	44.8	32.9	25.3	41.9	- -	- -	June	August	88	2.3	2.7	1.9	2.3	3.7	5.2	5.8	4.3	2.7	2.5	2.2	2.5	38.7	49°16'	1980'	105.4
	Katowice	47	4 yrs.	26.4	26.2	32.7	42.3	58.0	59.7	66.0	62.4	56.3	47.1	38.0	27.7	45.0	89.3	-5.4	May	October	163	0.8	0.8	0.5	1.6	1.0	3.2	4.0	4.9	3.0	3.1	1.5	0.8	24.4	50°13'	990'	54.1
Stanislawow	Horodenka	48	49 yrs.	22.3	25.0	32.9	45.7	56.3	62.4	65.7	64.4	56.1	47.3	34.7	26.2	45.0	91.6	-14.8	May	October	155	1.0	1.0	1.1	1.8	2.8	3.5	3.2	2.0	1.9	1.7	1.4	0.9	22.9	48°40'	871'	50.6
Tarnopol	Tarnopol	49	49 yrs.	21.4	23.5	31.5	43.7	55.6	62.3	65.1	63.5	55.4	45.7	33.8	25.6	43.9	86.6	-10.1	April	October	180	1.0	0.8	1.0	1.7	2.3	3.5	3.5	2.4	1.7	1.8	1.3	0.9	22.5	49°33'	1050'	47.3
Warszawa	Grabnik	50	8 yrs.	26.8	24.4	31.5	43.4	56.7	60.3	66.6	63.3	55.2	46.8	37.1	28.4	45.2	91.2	-8.7	May	October	160	1.2	1.1	0.9	1.6	1.9	2.9	3.6	4.1	2.1	1.9	1.7	1.5	26.1	52°42'	337'	55.7
	Lowicz	51	49 yrs.	26.6	28.0	34.4	45.2	55.8	63.7	66.4	65.0	57.0	46.8	36.0	28.7	46.1	89.6	-1.3	April	October	189	1.0	1.0	1.3	1.8	2.0	2.6	3.2	2.6	1.7	1.3	1.3	1.3	29.5	52°05'	320'	45.5
	Mlawa	52	4 yrs.	24.8	24.9	30.5	42.3	55.8	59.7	64.4	61.5	53.6	45.0	35.4	26.6	43.4	89.1	-5.5	May	October	163	0.8	0.9	0.6	1.4	2.6	2.6	3.5	3.8	1.9	2.1	1.0	0.9	23.0	53°07'	502'	43.4
	Ostrowite	53	4 yrs.	24.2	21.0	30.7	40.3	57.2	58.7	65.0	63.2	55.4	45.5	36.3	31.3	45.2	90.7	1.9	April	October	176	1.4	1.3	0.5	1.1	1.9	2.5	2.1	1.6	1.7	1.7	1.3	1.1	16.5	53°04'	396'	33.9
	Plonsk	54	49 yrs.	25.9	27.3	33.6	45.0	56.0	63.5	66.0	64.6	57.0	46.6	35.6	28.2	45.7	- -	- -	May	October	168	0.9	1.1	1.2	1.4	1.8	2.0	2.6	2.5	1.6	1.0	1.1	1.1	18.8	52°38'	343'	40.7
	Rudka	55	3 yrs.	23.9	23.3	30.7	41.9	54.2	59.2	66.2	62.6	54.5	45.2	34.9	27.1	44.1	88.5	-8.2	April	October	145	0.7	1.7	0.4	0.9	2.9	2.5	2.4	3.6	2.2	1.5	1.0	1.3	22.2	52°10'	561'	47.8
	Warszawa	56	49 yrs.	25.5	27.5	34.0	45.7	56.1	63.9	66.0	64.2	56.7	46.4	35.3	27.8	45.7	89.2	3.6	April	October	180	1.3	1.1	1.3	1.6	1.9	2.5	3.0	2.4	1.6	1.2	1.5	1.4	21.3	52°13'	399'	43.7
	Wloclawek	57	49 yrs.	26.4	28.4	34.5	45.0	54.9	63.3	66.0	64.1	56.7	46.8	35.8	28.9	45.9	- -	- -	--	--	--	1.1	1.2	1.4	1.5	1.8	2.3	2.4	2.0	1.5	1.1	1.1	1.3	19.2	52°40'	215'	44.5
Wilno	Ignalino	58	49 yrs.	20.3	20.4	27.3	40.3	52.5	60.8	64.2	61.2	53.3	42.8	31.4	23.0	41.6	- -	- -	May	October	175	1.1	1.1	0.9	1.4	1.8	3.3	2.9	3.9	2.0	1.6	1.7	1.5	23.5	55°21'	549'	54.3
	Molodeczno	59	49 yrs.	20.3	21.2	28.2	41.2	53.6	61.2	64.2	61.5	53.7	42.8	31.6	23.1	41.9	- -	- -	--	--	--	1.1	1.2	1.0	1.5	2.0	3.2	3.6	3.2	1.7	1.5	1.5	1.2	23.4	54°19'	551'	59.5
	Pobulanka	60	7 yrs.	21.4	17.0	26.6	38.5	54.7	57.8	64.8	61.2	52.0	43.7	34.0	23.3	41.2	90.2	-26.4	May	September	129	0.6	0.9	1.2	1.5	2.9	3.3	2.3	4.0	2.4	2.8	2.7	1.7	28.0	55°4'	436'	67.7
	Wilno	61	49 yrs.	23.0	23.7	30.0	42.4	54.5	62.8	65.7	62.8	54.7	44.5	30.5	23.4	43.5	87.5	-11.7	May	October	168	1.3	1.2	1.1	1.5	1.8	3.0	3.1	3.7	1.8	1.5	1.7	1.4	23.3	54°41'	449'	56.8
Wolyn (Volhynia)	Luck	62	7 yrs.	22.4	19.4	29.3	42.6	57.8	59.6	65.7	63.0	55.1	46.6	37.2	26.8	43.7	90.9	-15.1	April	October	164	0.7	0.8	0.9	1.7	2.2	2.6	3.3	3.0	2.1	2.0	1.6	1.0	22.2	50°46'	634'	48.7
	Zdolbunow	63	49 yrs.	22.8	24.6	32.6	44.6	56.6	63.7	66.6	64.6	56.6	46.6	35.3	26.4	45.2	- -	- -	--	--	--	0.9	0.9	1.0	1.6	2.5	3.2	3.3	2.5	1.7	1.7	1.5	1.1	22.1	50°30'	644'	47.4
East Prussia	tstadt B/Gilgenburg	64	50 yrs.	25.3	26.4	32.6	42.5	52.9	58.4	61.9	59.9	53.6	44.3	34.7	28.0	43.4	93.6	-16.3	May	October	157	1.5	1.2	1.2	1.6	1.9	2.5	3.0	2.9	2.0	1.6	1.6	1.8	23.0	53°28'	627'	59.3
	ndau B/Goldap	65	50 yrs.	23.3	24.2	30.2	40.7	52.4	57.8	61.4	59.9	52.7	43.2	33.5	26.4	42.1	- -	- -	May	October	150	1.9	1.5	1.4	1.9	2.0	3.6	3.6	3.5	2.4	1.9	2.2	2.2	28.3	54°20'	752'	75.1
	Heilsberg	66	50 yrs.	26.0	27.3	33.1	42.8	52.9	58.8	62.6	60.5	54.0	45.0	35.4	28.9	43.9	99.9	-28.5	May	October	157	1.6	1.3	1.3	1.7	2.1	2.6	3.4	3.2	2.2	1.7	1.8	1.8	25.0	54°08'	287'	64.4
	Insterburg	67	50 yrs.	25.5	26.8	32.7	43.4	54.5	60.1	63.7	61.0	54.2	44.8	35.3	28.6	44.3	96.8	-27.6	May	October	168	1.8	1.4	1.5	1.8	2.0	2.8	3.5	3.4	2.3	2.0	2.1	2.1	27.0	54°38'	132'	72.5
	Königsberg	68	50 yrs.	26.9	28.2	33.6	43.2	52.9	58.8	62.8	60.8	54.5	45.7	36.5	30.0	44.4	96.8	-24.1	April	October	181	1.8	1.3	1.4	1.5	1.8	2.4	3.2	3.8	3.0	2.7	2.4	2.3	27.8	54°45'	69'	71.0
	Marienburg	69	50 yrs.	27.5	28.9	34.7	43.9	53.4	59.6	63.7	61.5	55.2	46.1	36.7	30.5	45.2	98.1	-28.6	April	October	171	1.1	1.1	1.2	1.4	1.9	2.2	2.8	2.7	2.1	1.6	1.5	1.4	21.0	54°02'	46'	50.1
	Ortelsburg	70	50 yrs.	25.0	26.4	32.7	43.0	54.0	59.2	63.0	60.3	53.3	44.3	34.7	27.8	43.7	88.7	-24.7	May	October	156	1.3	1.2	1.3	1.6	2.1	2.7	3.5	3.2	2.1	1.6	1.6	1.7	24.0	53°34'	456'	50.7
	Osterode	71	50 yrs.	26.6	27.8	33.6	43.4	54.2	59.9	63.7	61.2	54.5	45.3	36.0	29.5	44.6	96.1	-24.7	April	October	176	1.6	1.3	1.3	1.6	2.1	2.5	3.0	2.9	2.1	1.5	1.7	1.8	23.4	53°42'	370'	50.1
Pomerania	Greifenberg	72	50 yrs.	29.6	30.7	36.0	44.1	52.6	58.6	62.3	60.5	55.1	46.6	38.5	32.7	45.7	- -	- -	--	--	--	2.0	1.4	1.6	1.6	1.8	2.3	3.1	2.8	2.5	2.0	1.9	2.1	25.4	53°55'	63'	53.8
	Lauenburg	73	50 yrs.	29.3	30.2	34.9	42.5	51.8	58.1	62.4	60.1	54.3	46.2	37.8	32.0	45.0	96.5	-22.7	May	October	146	1.7	1.2	1.4	1.4	2.0	2.1	3.3	3.4	2.9	2.3	2.1	2.0	26.2	54°33'	66'	63.7
	Muhlendorf	74	50 yrs.	28.4	29.3	34.9	42.8	51.6	57.6	61.7	59.6	53.8	45.3	36.7	30.9	44.4	94.8	-24.7	May	October	166	1.5	1.3	1.5	1.7	2.2	2.4	2.9	3.2	2.2	1.9	1.9	1.9	24.8	53°42'	337'	52.7
	Neustettin	75	50 yrs.	27.8	29.1	34.4	43.0	53.3	52.8	62.4	59.9	54.0	45.3	36.5	30.5	44.6	91.1	-14.1	April	October	174	1.6	1.3	1.4	1.5	2.2	2.2	3.2	2.8	2.1	1.7	1.7	1.8	23.8	53°43'	462'	57.2
G. W. Posen West Prussia	Deutsch Krone	76	50 yrs.	28.2	29.8	35.4	44.2	54.5	60.5	64.1	61.5	55.1	45.9	36.9	30.9	45.5	98.6	-22.7	April	October	176	1.7	1.3	1.4	1.5	2.2	2.3	2.9	2.5	1.8	1.5	1.5	1.9	22.6	53°17'	406'	55.3
	Fraustadt	77	50 yrs.	29.5	31.3	37.6	46.1	56.1	61.9	65.1	63.0	56.5	47.1	37.6	30.2	47.0	100.8	-23.8	April	October	182	1.6	1.2	1.4	1.5	2.2	2.5	3.0	2.4	2.0	1.6	1.5	1.6	22.8	51°48'	337'	52.0
Brandenburg	Landsberg A/Warthe	78	50 yrs.	29.3	31.1	37.1	44.1	55.1	60.6	63.9	61.7	55.6	46.4	37.4	31.8	46.2	98.4	-20.6	April	October	169	1.7	1.2	1.5	1.5	1.9	2.3	3.2	2.3	1.8	1.5	1.5	1.7	22.2	54°44'	231'	51.3
Silesia	Breslau	79	50 yrs.	30.0	31.6	38.1	46.8	56.9	62.4	65.9	63.9	57.6	48.2	38.5	32.7	47.6	98.3	-25.6	April	October	187	1.3	1.0	1.4	1.6	2.4	2.4	3.7	2.7	1.9	1.8	1.4	1.4	23.0	51°07'	375'	44.5
	Bunzlau	80	50 yrs.	28.9	31.3	37.1	45.0	54.9	59.9	63.5	61.5	55.2	46.6	37.9	31.6	46.1	- -	- -	April	October	179	1.8	1.4	1.4	1.8	2.7	2.7	3.3	2.8	2.2	1.9	1.2	1.8	25.8	51°15'	660'	57.5
	Glatz	81	50 yrs.	27.7	29.8	36.5	44.6	54.1	59.2	62.4	60 5	54.3	46.4	36.9	30.5	45.3	99.0	-26.1	May	October	147	1.1	0.8	1.3	1.8	2.8	2.9	3.4	2.8	2.6	1.9	1.3	1.1	23.6	50°27'	731'	53.8
	Krummhubel	82	50 yrs.	28.2	28.9	34.4	41.7	51.1	56.1	57.7	58.5	53.1	44.8	35.6	30.4	43.5	94.1	-19.3	May	October	165	2.3	1.7	2.6	3.2	4.0	4.1	5.1	4.1	3.4	3.2	2.8	2.5	39.2	50°46'	1960'	102.5
	Oppelin	83	50 yrs.	29.3	31.3	38.1	46.8	56.7	62.1	65.5	63.7	57.2	48.2	38.3	32.2	47.5	100.4	-26.1	April	October	187	1.6	1.2	1.5	1.9	2.5	2.4	4.0	2.9	2.1	1.9	1.6	1.6	25.5	50°40'	576'	57.2
	Reinerz	84	50 yrs.	26.2	27.8	33.6	41.4	51.1	56.5	59.7	57.9	52.0	43.9	34.5	28.7	42.8	94.3	-34.5	May	October	151	2.9	2.2	2.8	3.0	3.4	3.8	4.7	4.0	3.0	3.3	2.8	3.0	39.2	50°24'	1841'	115.7
	Rosenberg	85	50 yrs.	27.5	29.1	35.8	44.4	54.9	60.1	63.7	61.4	54.9	46.2	36.7	30.5	45.5	100.6	-34.9	April	October	166	2.0	1.6	1.8	2.2	2.3	3.0	4.0	3.1	1.9	2.2	1.9	1.9	27.7	50°52'	612'	72.0

POLISH AREAS AN
EAST GERMAN A

Province	Meteorological Station Ref. No.	
Bialystok	1	Białystok
	2	Grodno
	3	Suwalki
Kielce	4	Busko
	5	Czestochowa
	6	Kielce
	7	Ostrowiec
	8	Radom
	9	Wierzbno
	10	Zabkowice
	11	Zdanow
Krakow	12	Krakow
	13	Krynica
	13a	Libusza
	14	Tarnow
	15	Wiliczka
	16	Zakopane
Lodz	17	Kalisz
	18	Piotrkow
	19	Sokolniki
Lublin	20	Chelm
	21	Korczew
	22	Lublin
	23	Pulawy
	24	Tomaszow
Lwow	25	Dabrowka
	26	Glogow
	27	Lwow
	28	Przemysl
	29	Smolnik
	30	Tarnobrzeg
Nowogrodek	31	Lida
	32	Slonim
Polesie	33	Brzesc Nad Bugiem/ (Brest Litowsk)
	34	Pinsk
Pomorze	35	Chojnice
	36	Gdynia
	37	Grudziadz
	38	Hel
	39	Koscierzyna
	40	Torun

POLISH AREAS AND SOME EAST GERMAN AREAS

SUPPLEMENTAL CHART 1 - FOR WINTER CROPS MAINLY
NORTH AMERICAN CLIMATIC ANALOQUES FOR POLAND & E. GERMANY

(Based Upon Similarity in Latitude Position, Temparature Conditions
Throughout the Year, and Mid-September to Mid-May Precipitation.)

SUPPLEMENTAL CHART 2 - FOR SPRING CROPS ONLY
NORTH AMERICAN CLIMATIC ANALOGUES FOR POLAND & E. GERMANY

(Based Upon Similarity in Latitude Position, and
Mid-April to Mid-October Temperature Conditions.).

Province	Mateorological Station Ref. No.		Length of Growing Period in Days	Latituda	Altitude	Meteorological Station and its Location Ref. No.		Length of Growing Pariod in Days	Latitude	Altitude	Meteorological Station and its Location Raf. No.		Length of Growing Period in Days	Latitude	Altitude
Bialystok----	1	Bialystok	170	53°08'	450'	1	British Columbia (Armstrong)	159	50°27'	1182'	1	Saskatchewan (Swift Currant)	120	50°20'	2440'
	2	Grodno	148	53°06'	429'	2	British Columbia (Chinook Cover)	159	51°16'	1253'	2	Saskatchewan (Swift Current)	120	50°20'	2440'
	3	Suwalki	144	54°06'	571'	3	British Columbia (Vavenby)	159	51°35'	1541'	3	Manitoba (Winnipeg)	98	49°43'	742'
Kielca-------	4	Busko	186	50°27'	795'	4	Northarn Idaho (Lakeviaw, Bonner Co.)	154	47°55'	2250'	4	N. Minnesota (Angus, Polk Co.)	110	48°10'	870'
	5	Czestochowa	171	50°49'	825'	5	Northern Idaho (Porthill, Boundary Co.)	142	49°00'	1665'	5	N. Minnesota (Hallock, Kittson Co.)	113	48°50'	815'
	6	Kielce	170	50°53'	931	6	Northern Idaho (Porthill, Boundary Co.)	142	49°00'	1665'	6	N. Minnesota (Angus, Polk Co.)	110	48°10'	870'
	7	Ostrowiec	139	50°57'	647'	7	Northern Idaho (Porthill, Boundary Co.)	142	49°00'	1665'	7	Manitoba (Treasbank)	120	49°38'	1206'
	8	Radom	177	51°24'	558'	8	Northern Idaho (Porthill, Boundary Co.)	142	49°00'	1665'	8	Alberta (Lethbridge)	115	49°43'	2961'
	9	Wierzbno	163	50°09'	733'	9	British Columbia (Chinook Cover)	159	51°16'	1253'	9	N. Minnesota (Angus, Polk Co.)	110	48°10'	870'
	10	Zabkowice	--	50°21'	993'	10	Northern Idaho (Sandpoint, Bonner Co.)	120	48°20'	2100'	10	Alberta (Raymond)	120	49°28'	3123'
	11	Zdanow	167	50°43'	779'	11	Northern Idaho (Porthill, Boundary Co.)	142	49°00'	1665'	11	Alberta (Raymond)	120	49°28'	3123'
Krakow------	12	Krakow	187	50°04'	726'	12	Northern Idaho (Sandpoint, Bonner Co.)	120	48°20'	2100'	12	W. Montana (Heron, Sanders Co.)	98	48°10'	2160'
	13	Krynica	162	49°24'	1934'	13	British Columbia (Armstrong)	159	50°27'	1182'	13	N.C. Montana (Adel, Cascade Co.)	87	47°10'	5200'
	13a	Libusza	145	49°42'	881'	13a	British Columbia (Armstrong)	159	50°27'	1182'	13a	N. Minnesota (Hallock, Kittson Co.)	113	48°50'	815'
	14	Tarnow	178	50°04'	726'	14	British Columbia (Boswoll)	130	49°29'	-----	14	W. Montana (Heron, Sanders Co.)	98	48°10'	2160'
	15	Wiliczka	183	49°59'	815'	15	British Columbia (Boswell)	130	49°29'	-----	15	N. Minnesota (Angus, Polk Co.)	110	48°10'	870'
	16	Zakopane	118	49°17'	2749'	16	N. Idaho (Priest River Ex. Station, Bonner Co.)	95	48°25'	2380'	16	Alberta (Cardston)	102	49°72'	3826'
Lodz--------	17	Kalisz	178	51°46'	360'	17	British Columbia (Boswell)	130	49°29'	-----	17	Alberta (Lethbridge)	115	49°43'	2961'
	18	Piotrkow	164	51°25'	683'	18	N. Idaho (Porthill, Boundary Co.)	142	49°00'	1665'	18	Alberta (Lethbridge)	115	49°43'	2961'
	19	Sokolniki	164	51°18'	604'	19	N. Idaho (Lakeview, Bonner Co.)	154	47°55'	2250'	19	Alberta (Lethbridge)	115	49°43'	2961'
Lublin------	20	Chelm	173	51°08'	624'	20	N. Idaho (Porthill, Boundary Co.)	142	49°00'	1665'	20	Alberta (Lethbridge)	115	49°43'	2961'
	21	Korczew	185	52°21'	449'	21	N. Idaho (Porthill, Boundary Co.)	142	49°00'	1665'	21	Saskatchewan (Swift Current)	120	50°20'	2440'
	22	Lublin	178	51°14'	603'	22	N. Idaho (Porthill, Boundary Co.)	142	49°00'	1665'	22	Saskatchewan (Swift Currant)	120	50°20'	2440'
	23	Pulawy	183	51°25'	683'	23	N. Idaho (Porthill, Boundary Co.)	142	49°00'	1665'	23	Alberta (Lethbridge)	115	49°43'	2961'
	24	Tomaszow	169	50°26'	894'	24	N. Idaho (Porthill, Boundary Co.)	142	49°00'	1665'	24	Alberta (Lethbridgo)	115	49°43'	2961'
Lwow--------	25	Dabrowka	160	49°34'	1028'	25	N. Idaho (Lakeview, Bonner Co.)	154	47°55'	2250'	25	W. Montana (Columbia Falls, Flathead Co.)	92	48°20'	3100'
	26	Glogow	--	50°09'	802'	26.	N. Idaho (Lakeview, Bonner Co.)	154	47°55'	2250'	26	W. Montana (Heron, Sanders Co.)	98	48°10'	2160'
	27	Lwow	190	49°50'	983'	27	N. Idaho (Sandpoint, Bonner Co.)	120	48°20'	2100'	27	N. Minnesota (Hallock, Kittson Co.)	113	48°50'	815'
	28	Przemysl	162	49°47'	663'	28	N. Idaho (Porthill, Boundary Co.)	142	49°00'	1665'	28	N. Minnesota (Hallock, Kittson Co.)	113	48°50'	815'
	29	Smolnik	--	49°16'	1739'	29	British Columbia (Vavenby)	159	51°35'	1541'	29	No. Minnesota (Two Harbors, Lake Co.)	105	47°05'	906'
	30	Tarnobrzeg	178	50°34'	544'	30	British Columbia (Armstrong)	159	50°27'	1182'	30	N. Minnesota (Roseau, Roseau Co.)	101	48°50'	1040'
Nowogrodek--	31	Lida	151	53°51'	442'	31	British Columbia (Vavenby)	159	51°35'	1541'	31	Manitoba (Winnipeg)	98	49°53'	742'
	32	Slonim	160	53°06'	429'	32	British Columbia (Vavenby)	159	51°35'	1541'	32	Alberta (Edmonton)	92	53°33'	2158'
Polesie-----	33	Brzesc Nad Bugiem/ (Brest Litowsk)	175	52°05'	430'	33	British Columbia (Howser)	130	50°18'	1874'	33	Alberta (Lethbridge)	115	49°43'	2961'
	34	Pinsk	172	50°07'	469'	34	N. Idaho (Porthill, Boundary Co.)	142	49°00'	1665'	34	Alberta (Lethbridge)	115	49 43'	2961'
Pomorze-----	35	Chojnice	154	53°42'	561'	35	British Columbia (Howser)	130	50°18'	1874'	35	Alberta (Olds)	100	51°45'	3413'
	36	Gdynia	191	54°31'	16'	36	Eastern Wash. (Roslia, Whitman Co.)	131	47°15'	2425'	36	Alberta (Olds)	100	51°45'	3413'
	37	Grudziadz	144	53°08'	73'	37	British Columbia (Boswell)	130	49°29'	-----	37	Saskatchewan (Swift Current)	120	50°20'	2440'
	38	Hel	172	54°36'	16'	38	British Columbia (Boswell)	130	49°29'	-----	38	Saskatchewan (Battleford)	110	52°41'	1624'
	39	Koscierzyna	167	54°07'	551'	39	N. Idaho (Porthill, Boundary Co)	142	49°00'	1665'	39	Alberta (Edmonton)	92	53°33'	2158'
	40	Torun	150	53°01'	178'	40	British Columbia (Boswell)	130	49°29'	-----	40	Saskatchewan (Swift Current)	120	50°20'	2440'

(Continued on Page 2)

POLISH AREAS AND SOME E

Province	Meteorological Station Ref. No.	
Poznan--------	41	Antoniny
	42	Bydgoszcz (Brom
	43	Gniezno
	44	Krotoszyn
	45	Poznan
Slask-------	46	Istebna
	47	Katowice
Stanislawow--	48	Horodenka
Tarnopol------	49	Tarnopol
Warszawa-----	50	Grabnik
	51	Lowicz
	52	Mlawa
	53	Ostrowite
	54	Plonsk
	55	Rudka
	56	Warszawa
	57	Wloclawek
Wilno--------	58	Ignalino
	59	Molodeczno
	60	Pohulanka
	61	Wilno
Wolyn-------- (Wolhynia)	62	Luck
	63	Zdolbunow
East Prussia-	64	Altstadt B/Gilg
	65	Blandau B/Gold
	66	Heilsberg
	67	Insterburg
	68	Konigsberg
	69	Marienburg
	70	Ortelsburg
	71	Osterode
Pomerania---	72	Greifenberg
	73	Lauenburg
	74	Muhlendorf
	75	Neustettin
G.M. Posen-- W.Prussia	76	Deutsch Krone
	77	Fraustadt
Brandenburg--	78	Landsberg A/Wa
Silesia------	79	Breslau
	80	Bunzlau
	81	Glatz
	82	Krummhubel
	83	Oppeln
	84	Reinerz
	85	Rosenberg

POLISH AREAS AND SOME EAST GERMAN AREAS (Cont'd)

Province	Meteorological Station Ref. No.		Length of Growing Period in Days	Latitude	Altitude
Poznan	41	Antoniny	151	51°51'	310'
	42	Bydgoszcz (Bromberg)	160	53°08'	152'
	43	Gniezno	186	52°32'	386'
	44	Krotoszyn	197	51°41'	412'
	45	Poznan	195	52°56'	228'
Slask	46	Istebna	88	49°16'	1980'
	47	Katowice	163	50°13'	990'
Stanislawow	48	Horodenka	155	48°40'	871'
Tarnopol	49	Tarnopol	180	49°33'	1050'
Warszawa	50	Grabnik	160	52°42'	337'
	51	Lowicz	189	52°05'	320'
	52	Mlawa	163	53°07'	502'
	53	Ostrowite	176	53°04'	396'
	54	Plonsk	168	52°38'	343'
	55	Rudka	145	52°10'	561'
	56	Warszawa	180	52°13'	399'
	57	Wloclawek	--	52°40'	215'
Wilno	58	Ignalino	175	55°21'	548'
	59	Molodeczno	--	54°19'	581'
	60	Pohulanka	129	55°4'	436'
	61	Wilno	168	54°41'	449'
Wolyn (Wolhynia)	62	Luck	164	50°46'	634'
	63	Zdolbunow	--	50°30'	644'
East Prussia	64	Altstadt B/Gilgenburg	157	53°28'	627'
	65	Blandau B/Goldap	150	54°20'	792'
	66	Heilsberg	157	54°08'	287'
	67	Insterburg	168	54°38'	132'
	68	Konigsberg	181	54°45'	69'
	69	Marienburg	171	54°02'	46'
	70	Ortelsburg	156	53°34'	488'
	71	Osterode	176	53°42'	370'
Pomerania	72	Greifenberg	--	53°55'	63'
	73	Lauenburg	146	54°33'	66'
	74	Muhlendorf	166	53°42'	337'
	75	Neustettin	174	53°43'	462'
G.M. Posen W.Prussia	76	Deutsch Krone	176	53°17'	406'
	77	Fraustadt	182	51°48'	337'
Brandenburg	78	Landsberg A/Warthe	169	54°44'	231'
Silesia	79	Breslau	187	51°07'	375'
	80	Bunzlau	179	51°15'	660'
	81	Glatz	147	50°27'	731'
	82	Krummhubel	165	50°46'	1980'
	83	Oppeln	187	50°40'	578'
	84	Reinerz	151	50°24'	1841'
	85	Rosenberg	166	50°52'	812'

SUPPLEMENTAL CHART 1 (Cont'd)

Meteorological Station and its Location Ref. No.		Length of Growing Period in Days	Latitude	Altitude
41	British Columbia (Boswell)	130	49°29'	-----
42	British Columbia (Boswell)	130	49°29'	-----
43	British Columbia (Howser)	130	50°18'	1874'
44	British Columbia (Boswell)	130	49°29	-----
45	British Columbia (Boswell)	130	49°29'	-----
46	S. Idaho (New Meadows, Adams Co.)	71	44°55'	3860'
47	N. Idaho (Porthill, Boundary Co.)	142	49°00'	1665'
48	British Columbia (Greenwood)	123	49°05'	2466'
49	British Columbia (Armstrong)	159	50°27	1182'
50	British Columbia (Howser)	130	50°18'	1874'
51	N. Idaho (Porthill, Boundary Co.)	142	49°00'	1665'
52	British Columbia (Howser)	130	50°18'	1874'
53	British Columbia (Salmon Arm)	159	50°42'	1157'
54	N. Idaho (Porthill, Boundary Co.)	142	49°00'	1665'
55	British Columbia (Howser)	130	50°18'	1874'
56	N. Idaho (Porthill, Boundary Co.)	142	49°00'	1665'
57	Northern Idaho (Porthill, Boundary Co.)	142	49°00'	1665'
58	British Columbia (Chinook Cover)	159	51°16'	1253'
59	British Columbia (Vavenby)	159	51°35'	1541'
60	British Columbia (Greenwood)	123	49°05'	2466'
61	British Columbia (Armstrong)	159	50°27'	1182'
62	British Columbia (Chinook Cover)	159	51°16'	1253'
63	British Columbia (Howser)	130	50°18'	1874'
64	British Columbia (Howser)	130	50°18'	1874'
65	British Columbia (Howser)	130	50°18'	1874'
66	British Columbia (Howser)	130	50°18'	1874'
67	N. Idaho (Porthill, Boundary Co.)	142	49°00'	1665'
68	N. Idaho (Sandpoint, Bonner Co.)	120	48°20'	2100'
69	N. Idaho (Lakeview, Bonner Co)	154	47°55	2250'
70	British Columbia (Howser)	130	50°18'	1874'
71	N. Idaho (Porthill, Boundary Co.)	142	49°00'	1665'
72	N. Idaho (Sandpoint, Bonner Co.)	120	48°20'	2100'
73	British Columbia (Boswell)	130	49°29'	----'
74	N. Idaho (Sandpoint, Bonner Co.)	120	48°20'	2100'
75	N. Idaho (Sandpoint, Bonner Co.)	120	48°20'	2100'
76	British Columbia (Boswell)	130	49°29'	-----
77	N. Idaho (Moscow, Latah Co.)	153	46°45	2748'
78	British Columbia (Boswell)	130	49°29'	-----
79	British Columbia (Boswell)	130	49°29'	-----
80	British Columbia (Boswell)	130	49°29'	-----
81	N. Idaho (Lakeview, Bonner Co.)	154	47°55'	2250'
82	N. Idaho (Murray, Shoshone Co.	108	47°45'	2750'
83	N. Idaho (Moscow, Latah Co.)	153	46°45'	2748'
84	N. Idaho (Murray, Shoshone Co)	108	47°45'	2750'
85	N. Idaho (Lakeview, Bonner Co.)	154	47°55'	2250'

SUPPLEMENTAL CHART 2 (Cont'd)

Meteorological Station and its Location Ref. No.		Length of Growing Period in Days	Latitude	Altitude
41	Alberta (Lethbridge)	115	49°43'	2961'
42	Saskatchewan (Swift Current)	120	50°20'	2440'
43	Saskatchewan (Swift Current)	120	50°20'	2440'
44	Saskatchewan (Swift Current)	120	50°20'	2440'
45	Alberta (Lethbridge)	115	49°43'	2961'
46	N.C. Montana (Adel, Cascade Co.)	87	47°10'	5200'
47	N. Minnesota (Hallock, Kittson Co.)	113	48°50'	815'
48	N. Minnesota (Hallock, Kittson Co.)	113	48°50'	815'
49	N. Minnesota (Hallock, Kittson Co.)	113	48°50'	815'
50	Manitoba (Winnipeg)	98	49°53'	742'
51	Alberta (Lethbridge)	115	49°43'	2961'
52	Alberta (Raymond)	120	49°28'	3123'
53	Alberta (Edmonton)	92	53°33'	2158'
54	Saskatchewan (Swift Current)	120	50°20'	2440'
55	Saskatchewan (Swift Current)	120	50°20'	2440'
56	Alberta (Lethbridge)	115	49°43'	2961'
57	Alberta (Lethbridge)	115	49°43'	2961'
58	Manitoba (Winnipeg)	98	49°53'	742'
59	Manitoba (Winnipeg)	98	49°53'	742'
60	Manitoba (Brandon)	87	49°51'	1250'
61	Alberta (Edmonton)	92	53°33'	2158'
62	N. Minnesota (Hallock, Kittson Co.)	113	48°50'	815'
63	N. Minnesota (Hallock, Kittson Co.)	113	48°50	815'
64	Alberta (Edmonton)	92	53°33'	2158'
65	Alberta (Edmonton)	92	53°33'	2158'
66	Alberta (Edmonton)	92	53°33'	2158'
67	Alberta (Edmonton)	92	53°33'	2158'
68	Alberta (Edmonton)	92	53°33'	2158'
69	Alberta (Edmonton)	92	53°33'	2158'
70	Alberta (Edmonton)	92	53°33'	2158'
71	Alberta (Edmonton)	92	53°33'	2158'
72	Alberta (Edmonton)	92	53°33'	2158'
73	Alberta (Edmonton)	92	53°33'	2158'
74	Alberta (Edmonton)	92	53°33'	2158'
75	Alberta (Edmonton)	92	53°33'	2158'
76	Alberta (Edmonton)	92	53°33'	2158'
77	Alberta (Edmonton)	92	53°33'	2158'
78	Alberta (Lethbridge)	115	49°43'	2961'
79	Alberta (Edmonton)	92	53°33'	2158'
80	W. Montana (Heron, Sanders Co.)	98	48°10'	2160'
81	Alberta (Raymond)	120	49°28'	3123'
82	Alberta (Alix)	105	52°24'	2585'
83	W. Montana (Heron, Sanders Co.)	98	53°33'	2158'
84	Alberta (Alix)	105	52°24'	2585'
85	Saskatchewan (Swift Current)	120	50°20'	2440'